

DENTAL LIBRARY

THE DENTAL DIGEST



DECEMBER, 1927

VOL. XXXIII, No. 12

GEORGE WOOD CLAPP, D.D.S., Editor

PUBLISHED BY

THE DENTISTS' SUPPLY COMPANY OF NEW YORK

220 WEST 42ND STREET NEW YORK, N.Y.

For "cast in one piece"
Partial Dentures
Ney-Oro G-3
\$1.50 per dwt.

?

Mouth tests might tell something if all cases could be controlled and watched. Why not play safe and use gold that has been tested by Bureau of Standards Methods, — before taking the mouth hazard?

*Write
for Literature*

Ten. Strength — 117,500 lbs.
Yield Point — 103,000 lbs.
Brin. Hdns. — 272
(Oven Cooled)
Mltg. Range—1600°-1690°F.

Platinum alloys uniformly with gold. Demand the test records for all Nickel alloys. They vary greatly in composition, and are often either soft or brittle.

THE J. M. NEY COMPANY
HARTFORD, CONNECTICUT, U. S. A.

THE DENTAL DIGEST

Vol. XXXIII

DECEMBER, 1927

No. 12

A Clinical Contribution to the Pathology of the Oral Cavity

By Arthur Chaim, Physician and Dentist, Berlin (Friedenau), Germany

In the following I will describe some cases which have an interest, in part as surgery of the jaws and in part as touching on our special profession.

CASE 1

Mrs. K., 62 years old, was treated elsewhere for six weeks for facial neuralgia. As the pain increased, she had the right mandibular third molar extracted. Soon afterward chills and high fever set in and



Fig. 1

Phlegmon of the ascending ramus.

the right cheek swelled irregularly in the vicinity of the angle of the jaw. She was then referred to me for operation. When taken in at the Handjery Hospital, she had a temperature of 39.4° C. (102.9° F.), pulse 115, fixation of jaw third grade, and the under part of the right cheek from the ear to the chin was enormously swollen and inflamed.

Under ether narcosis I proceeded to operate from without inward and came laterally from the external oblique line on very rough bone; and when I reached half-way up the outer part of the ascending ramus, an ill-smelling grayish-green pus of creamy consistency spurted out. A rubber drainage tube was placed in the outer wound (Fig. 1), and in the mouth, in the neighborhood of the socket of the extracted third molar, a counter incision was made and the hole filled up with a tampon of iodoform gauze.

The patient could not sleep the first two nights on account of the fetid pus, which dripped constantly from the drainage tube.

An x-ray photograph showed an odontoma under the right third molar. This caused the neuralgia by compressing the mandibular nerve, and it was only after the extraction of the right mandibular third molar that the severe clinical symptoms of a phlegmon of the angle and ascending ramus of the jaw appeared. At the end of fourteen days the patient was able to leave the hospital without the odontoma and neuralgia.

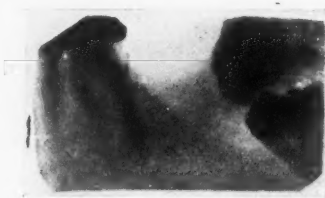


Fig. 2

An odontoma over a third molar as cause of neuralgic pains.

While in this case the odontoma caused neuralgia along the course of the third branch of the trigeminal nerve, Fig. 2 shows the reverse condition. In the latter it was the right third molar that irritated the mandibular nerve, and lying over this nerve was an odontoma.

CASE 2

I was called to see a woman patient with high fever and in an apathetic condition. The practitioner who called me in reported that the patient first summoned him on the same day and stated that six weeks before she had gone to a dentist because of bleeding of the gums and an unpleasant smell from her mouth. He cauterized the gums, which process proved very painful. During the first ten days he cauterized them several times. During the last fourteen days she had wasted very much and felt distinctly worse. On account of the increasing loosening of the teeth and the nasty taste eating became more and more repugnant and, at last, quite impossible. For the last three days, she said, she had had chills and high fever.

As the patient had pain on the right side on swallowing, she called in her medical adviser, thinking that she had an abscess of the jaw. This practitioner admitted that eight weeks earlier he had treated her for a boil on her upper lip. On inspection the patient gave one the impression of high fever. Both eyelids were markedly edematous and

her upper lip was pushed out like a proboscis. There was marked lymphadenitis of the regional submaxillary glands. Her breath had an unpleasant smell. The teeth on both sides of the maxilla were very loose. On attempting to raise the upper lip pus welled out of pockets in the gums, as well as out of four sinuses of the right and left mucous folds in the region of the incisor and premolar teeth. The teeth were brownish-yellow, coated with grease, and there was much insalivation; there was marked ulcerative stomatitis of the mandible; temperature 39.4° C. (102.9° F.); pulse 120; soft, low tension, and easily stopped by pressure.

The patient was received into the Handjery Hospital. Under ether I cut down on both sides into the mucous gum folds from the central to the first molar and from the central to the first premolar, and the whole gum over these sections gave the impression of an abscess about to burst and pointing into the mucous gum folds. On incision a large quantity of greenish-gray pus welled out. On both sides the knife grated on completely roughened bone, and in the right canine fossa the knife sank deep and there followed a gush of blood from the right nostril. The whole maxilla from the right first molar to the left first premolar yielded almost completely to pressure and toward the palate was apparently only partially fixed. Toward the palate, on the right side, were the openings of two sinuses, and on the left one sinus was discharging freely. In the upper third of the right upper arch of the palate appeared a reddish-blue infiltrate, from out of the depths of which plentiful evil-smelling pus was issuing.

The patient was in absolute danger of her life, since we had to deal with a progressive perimaxillary phlegmon, the pus of which, if not evacuated in time, might lead to edema of the glottis and burrow into the chest. Another just as unfavorable path would be by penetration of the stylopharyngeus muscle to the thin ligament over the sphenopetrosal fissure right into the interior of the skull, possibly ending in a fatal attack of purulent meningitis.

After the operation the clinical picture soon altered. The septic chart showed a sudden drop; the spleen, which was palpable, could not be felt now, and the signs of a thrombosis in the left leg disappeared. In the course of a week a sequestrum came out of the right side of the face, involving the alveolar process, the central to the first molar on the right, the central to the first premolar on the left, and a portion of the floor of the antrum.

If one is in doubt as to the origin of this panosteitis of the maxilla, whether it was due to the inappropriate treatment of the previous stomatitis (for, judging by the deep black spots on the teeth, the dentist had apparently been too free with his nitrate of silver) that the organism had become weakened through the absorption of toxins, so that

the alveolar process had become a place of lowered resistance for the infection from the furuncle of the upper lip, or whether an osteomyelitis developed from improper treatment of the stomatitis is a question, but *Case 3* proves without doubt that the furuncle on the chin was the cause of an osteomyelitis of the middle part of the mandible, with sequestration of a considerable part of the alveolar process, including the central incisors.

CASE 3

Mr. B. developed a large furuncle on his chin, accompanied by chills and high temperature. He assumed that he had injured himself some days before by striking the crook of an umbrella, especially as the central incisors in the mandible pained him. Examination indicated that the sound teeth in the mandible (right first premolar to left first premolar) were loose and showed vital reaction of the pulp; in the middle of the chin outside there were marked signs of inflammation, which there is no doubt did not proceed from the teeth but rather from a furuncle in the chin.



Fig. 3

Furuncle of the chin as cause of osteomyelitis of the mandible.

After a deep circular incision around the gangrenous core there was a fall of temperature and gradual resolution of the swelling of the chin. After a week there was again a rise in temperature, with chills and severe pains in the middle of the mandible. The alveolar process from right lateral to left lateral was very sensitive to pressure, and the mucous folds were swollen. The temperature rose in the next few days to 39° C. (102° F.).

After removal of the teeth from the right lateral to the left lateral, which were floating in pus, the necrotic alveoli lay freely open. The next step was dissecting off the covering mucosa, removal of the necrotic and partly riddled alveolar walls, opening up the bone-marrow space, which was filled with pus, and closing it, partly by stitching and partly by a tampon. On the following day there was a fall of tempera-

ture and a gradual refastening of the badly loosened right first premolar and cuspid and left first premolar and cuspid in the mandible. During the treatment several large sequestra came out. In this the history of trauma (the blow on the mandible by the umbrella handle) may be looked upon as causing the favorable soil for the osteomyelitis which followed the furuncle. (Fig. 3.)

CASE 4

The following is a case of an inoperable carcinoma of the maxilla (Fig. 4). In 1924 polypi were removed from the nose of this patient, who was in his seventy-seventh year. During the last half-year the patient had complained of severe headaches on the right side and the discharge of nasty matter from the right nostril. For the last six

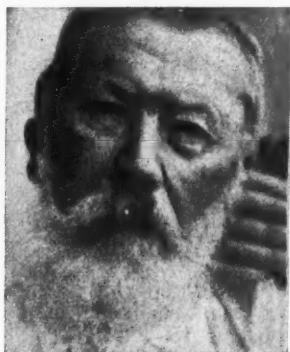


Fig. 4
Carcinoma of the maxilla.

weeks he had remarked that the right side of the maxilla had swollen and chewing had become more painful. He complained of pain in the right eye on pressure of the right temple, and also of frequent attacks of fainting. During the last ten days the pains had become unbearable. The patient could get no sleep in spite of taking drugs. On examination the right cheek was considerably thicker than the left. The right naso-labial fold was obliterated and swollen, and the right ala nasi was pushed up higher than the left. Through the skin, which could not be pinched up, there could be felt hard, nodulated lumps. No air could pass through the right nostril. In the middle nasal duct there were polypi. The right half of the maxilla was a single mass of tumor about the size of a large mandarin, which passed into the



Fig. 5

Carcinoma of the maxilla.

right cheek without any line of demarcation (Fig. 5), and with a cauliflower growth and a surface which was partly ulcerated and ill-smelling.

The x-ray (Fig. 6) confirmed the clinical diagnosis of carcinoma. Destruction of the right half of the maxilla, absence of the nasal septum, complete shading of the ethmoidal cells, and shadows in the floor of the orbit showed that metastasis had already taken place. The lymph glands were only slightly enlarged and hard, but not painful on pressure.

On May 2, he was taken into the Handjery Hospital. Since in addition he had a marked myocarditis and bronchitis due to arteriosclerosis, I would not give a general anesthetic. Under extra-oral anesthesia I excised a piece of the tumor about the size of a mandarin for microscopic examination. The whole right antrum and ethmoid



Fig. 6

X-ray showing carcinoma of the maxilla (partial view).

were full of a tumor mass. He then felt much better and the maddening headaches were decidedly improved by the relief of the pressure by the operation. The microscopical examination confirmed the diagnosis already made, a squamous cell carcinoma. Since a radical operation was useless, owing to the great spread of the disease, the presence of metastasis and his generally unfavorable condition due to advanced age, I had the patient treated with radium. On July 20 the end came.

When a practitioner has carcinoma cases referred to him in this advanced stage, horrified he always asks why his colleagues have such a dread of timely exploratory excision. By adopting the principle of early exploratory excision of a doubtful tumor or ulcer (suspicious patches of leucoplakia belong in this category), the number of inoperable cases could be considerably reduced.

Rheinstrasse 17.

(To be continued)



[SCIENCE DEFINED]

What is science, and what is it to be scientific in spirit? The simplest and most comprehensive definition of the term is "a systematized arrangement of natural facts." Any man who is engaged in observing the facts of nature and arranging a record of those facts with special reference to their related significance is, just to the extent of his labors, a scientific man.

—WILLIAMS.

Conquering the Retreating Chin Complex

By John Walker Harrington, New York, N. Y.

By their chins the laity judge one another. To the dentist a receding lower jaw may mean only arrested development; to the personnel expert empowered to "hire and fire" it signifies lack of will and wit. If little Mary's lower face slopes too much inward, her mother fears for her a beauless girlhood and a husbandless old age. Modern orthodontia, though devoted primarily to providing efficient masticating apparatus and opening the way to health and radiant well-being, cannot ignore the fact that this twentieth century has thousands of human beings handicapped in the race of life by their facial angles. Over many is hoisted an inferiority complex because they have more or less chin than convention prescribes.

Whence came this theory that features are true indices of character? It is prehistoric. In a recent address before the American Association for the Advancement of Science in Philadelphia Dr. William K. Gregory, the distinguished paleontologist of the American Museum of Natural History, traced man from the soup of protoplasm to the nut-eating ape. He says that humans probably were once piscine. Man was a poor fish, a ganoid, and then a better one, a shark, one of the first of creatures to have what passed for an expression. None can say that sharks lack snap, but who ever saw one with a fighting chin?

In his fascinating study *The Evolution of the Human Face* Dr. Gregory also plots the gradual growth of the dental arch. As greater tasks were imposed upon his teeth, man tore his food with the fanglike incisors and ground it between the upper and nether millstones of his molars. The Neanderthal type of *homo sapiens* had a retiring lower face; the Crô-Magnon usually cultivated a more projecting chin. Eons brought a trend toward the outward curve of the lower jaw and a broader dental arch. Probably the cave-men, who had so little light in their homes that, according to Charles Lamb, they felt each other's faces in the dark to see the effect of their jokes, may have called each other *Fish Jaw* or *Bear Chin* from the outlines revealed by tactile exploration.

Aristotle compared men to animals according to their features. He saw long-faced beings like horses, gentle sheep or ravening wolves. Just as dogs stop, look and sniff and then fight or frolic with each other, so man formed quick judgments by a glance at the eyes and nose and chin of his fellows.

By their sculpture and drawing the Greeks really established the ideal man face—the high forehead; thin, straight nose; chin which stood out well, neither aggressive nor retrogressive, and with a pleasing

curve ending in a hollow beneath the lips. They gave their gods and goddesses and their athletes such symmetry of countenance. In antiquity the person with the weak chin was considered a "nit-wit"; he with the fairly protuberant one was credited with intelligence and poise. The Greeks scorned the prognathous hordes from the North and called them the barbarians or the *bearded ones*, for they wore hair on



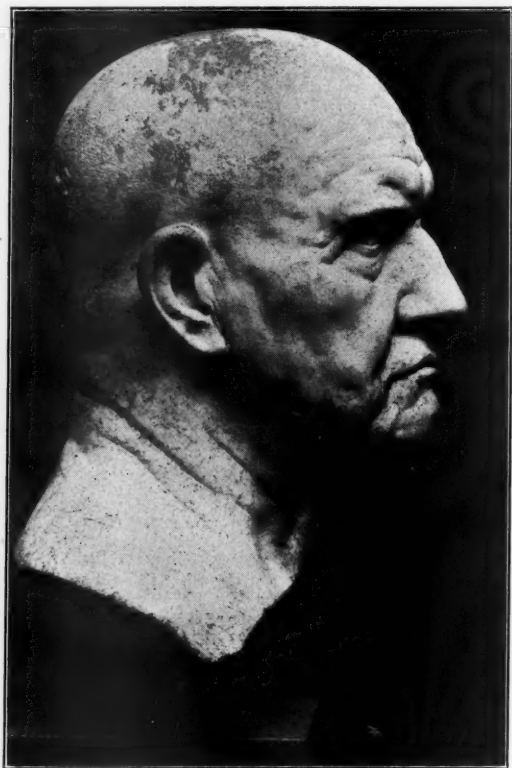
The Metropolitan Museum of Art

Greek athlete—from ancient sculpture.

their chins because their chins were not fit to be seen naked. As Hellenic civilization became more elegant and diet all too refined, its chins retired somewhat.

The Roman legions, chewing raw wheat as they marched through Gaul, had firm maxillary equipment and were a match for the Cimbri,

whose name still remains in the adjective *jimber-jawed*. As luxury grew in Rome, chewing grew unfashionable. One of the emperors even erected a monument to lettuce, of which soft fodder he was inordinately fond. The Romans as revealed in their later sculptures took to whiskers to conceal the increasing incline of the chin inward, and then came



The Metropolitan Museum of Art

Roman bust showing fighting chin.

the decline and fall of the Roman Empire under the loose-lipped Caligula and his ilk.

With the revival of classic learning in Europe the exaggerated and degenerated teachings of the Greek philosophers appeared in the pseudo-science of physiognomy. By the eighteenth century the physiognomists became such public nuisances that George II had a law passed pun-



Portion of a statue of Emperor Marcus Aurelius, by Nicholas Beatrizet.
Note whiskers to conceal the incline of the chin inward.

ishing them with flogging or six months in jail if they persisted in their meddlesome calling. They professed to tell all the sins and faults of mortals by feature analysis. Sometimes they hit off the facts all

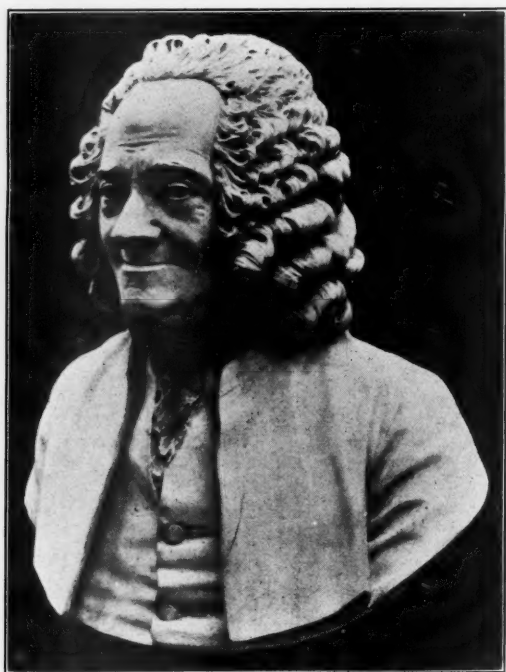


Victoria and Albert Museum

George III—note the weak chin.

too well. George II, who started after them, had little chin to speak of, and his son George III had less. Their House of Hanover was never noted for either its height of forehead or firmness of features. It is the opposite in that respect to the House of Hapsburg, which once ruled Austria and still has a good deal to do with Spain, for the Hapsburg chin is so monumental that it is really abnormal.

The making of profile pictures and shadowgraphs was very fashionable, and that great exemplar of the ceramic art, Josiah Wedgwood, modeled plaques, as he did of George III, showing side views of faces.



Voltaire

The Louvre

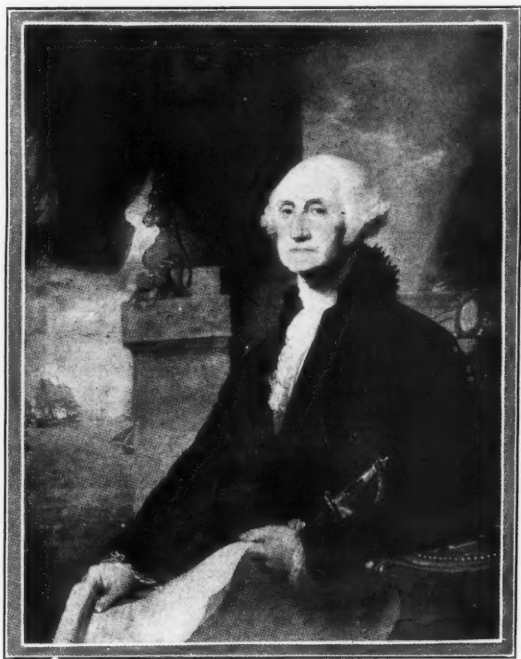
Such works as these give the orthodontist unusual opportunities to study the chins of the great and the near great of an earlier age.

Physiognomists became more opinionated than ever under criticism, and their books are largely filled with defenses of their occupation. To what extremes they went may be seen from the *Essays on Physiognomy* by the Swiss practitioner, John Caspar Lavater. He charac-

terized individuals with projecting underlips who exhibited their dentures continuously as "stuj'd, rude or malignant."

"When a person has a mouth which suffers teeth to be seen, even when it is shut," he wrote, "it is a sign of cold, unmerciful, severe, contemning malignity."

To him the base nature always had "fearful teeth and short lips," and the retreating chin was the badge of weakness, illiteracy and general "cussedness." The pointed chin, probably because Voltaire had one, meant spitefulness and biting wit; and a too rounded chin,



The New York Public Library

George Washington, by Gilbert Stuart. Washington chin after artificial teeth were worn.

such as was attributed to Nero, and which Napoleon undoubtedly had, denoted a tyrannical and all too amorous disposition. Today the orthodontist would diagnose the Voltaire chin as a trace of rickets in infancy and would find that Lord Nelson would have had a chin in scale with his nose if he had had more vitamins in his youth. Even the heavy chin of Washington of later years would be attributed to

clumsily fashioned artificial teeth, for Washington, the young Virginia Colonel of militia, had a far from auster facial aspect.

Illogical and unscientific as was most of the old-line physiognomy, it cannot be brushed aside entirely as antiquated balderdash, for there are today "character analysts" and "occupational experts" and "business psychologists" who presume to judge men largely by their casts of countenance and, as do the followers of Gene Tunney's profession, they aim first at the chin. The personnel manager of one of the largest industrial concerns in the country will not look at an applicant for a high executive position who has a retreating chin. A well-known orthodontist told the writer of the case of a well educated and exceedingly able man of twenty-five who was as short on chin as he was long on ability. He put this patient through a course of sprouts, and although of course he could not change the dental arch so late in life, he did succeed in altering the facial facade enough to make him quite presentable and to put him into a \$10,000-a-year job.

It happens that artists, poets, idealists are likely to have a rather equine cast of countenance, and that fighters are inclined to round heads and projecting jaws. Chins that are receding or weakly defined are due very largely to dietary deficiencies in childhood. This has been admirably demonstrated in those revolutionary experiments in The Forsyth Dental Infirmary conducted by Dr. Percy R. Howe. They knock both the old-time theory of the cause of caries and the poppycock of the character analysts into a cocked hat. The narrow arch with its accompanying "weak chin" observed in many children is after all due to faulty nutrition.

Dr. Milo Hellman, of New York, who also is on the staff of the American Museum of Natural History and a lecturer on orthodontia at the University of Pennsylvania, says that in a wide experience he has never seen a defective lower jaw in a child that had been a breast-fed baby. Bottled babies, according to his theory, are more prone to rickets and to underdevelopment of the maxillae. Of course, with the great progress which has been made by the medical profession in the preparation of modified milk for infants a child for whom the mother has no natural lacteal supply ought to have a fighting chance to acquire a punishing jaw in later life. The classic tests made in Boston, where one monkey was fed with food rich in Vitamin C and the other had none, are confirmatory of the theory that both teeth and jaws can be fed.

The brilliant work of Dr. Frederick Lester Stanton of New York, a member of the faculty of the Dental College of New York University, has blazed a new trail. Associating with him a civil engineer, he has developed the new science of dental engineering and a varied equipment for its practice, which has attracted the attention of such authorities as Sir Arthur Keith, the distinguished British anatomist. As the

readers of this journal will recall, the teeth of both jaws may be re-aligned in accordance with charts obtained after delicate measurements with instruments of precision. These mouth maps or charts remind one of ground plans of cathedrals; they seem like vestibules of that temple of life—the human body.

To make radical changes in the configuration of the jaw itself is not within the province even of this new dental mechanics; neither does it rebuild chins nor reconstruct the countenance. It does, however, bring a great deal of first aid to those whose lower faces are out of register. By having their positions shifted somewhat, teeth which protrude in a tusklike manner will be made to give the jaw a natural position. The mouth can be kept closed, the patient begins to breathe through his nose, the tongue is able to cause that vacuum which is so necessary to firmness of jaw, and before long the child that had a semi-idiotic and toothful stare looks like a normal human being.

The art and science of the orthodontist have due regard for cosmetic effect. It cannot make all young girls into Gibsonesque women nor make every boy an Apollo, but it certainly does correct faults of feature and causes many to be more than presentable. Many a young patient, deprived of adenoids and tonsils but still wide-mouthed and loose-lipped and, according to the lay view, almost chinless, has been made to look like quite a different person by the magic of orthodontia. Proper adjustment of the muscles of the cheeks and the chin follow, and what was once a chaos of ill-assembled features becomes a cosmos not at all hard upon the eyes of the observer.

The way out from under the sway of this chin complex is not by one route. Re-alignment, mechanical treatment, a diet rich in bone-building constituents, the practice of the rules of health—all these are factors in making the younger generation comely to the sight and filling them with that confidence begotten by a sense of well-being.

220 West 42nd Street.



Special Teeth for Cross-Bite Cases

By Alfred Gysi, D.D.S., Zurich, Switzerland

Professor of Prosthetic Dentistry, University of Zurich
(Literary Collaboration by George Wood Clapp, D.D.S.)

SIXTH ARTICLE

THE DEVELOPMENT OF CROSS-BITE FORMS

In 1910, when I first tried to carve cross-bite forms, as was mentioned in the *Third Article*, I found it impossible to form occlusal surfaces with the same number of cusps as in normal-bite teeth which would be satisfactory in the cross-bite relation. More cusps were required in both the maxillary and the mandibular teeth. The necessary inclinations of the various planes caused these cusps to be very low. The articulating facets were very short in all the lines in which the mandible moved. The result was that when a mandible made more than a limited movement in any direction, the cusps passed out of contact. Because of the increased number of cusps, the shortness of the facets and the generally flat appearance of the masticating surfaces, the teeth were not pleasing. The difficulties were temporarily insoluble and the work was suspended during the production of the normal-bite teeth, during the War, and also during the year 1920, when all my vacation period was spent in America.

In 1921 I resumed the search for acceptable forms of cross-bite teeth. After two years of experimentation I discovered that instead of placing more than the normal number of cusps on the occlusal surfaces of the teeth I could reduce the number of cusps and secure much more satisfactory results. There are from ten to twelve facets on the occlusal surface of the normal-bite molars that I designed. The occlusal surface of a cross-bite molar, as I finally perfected the design, has only three or four facets.

This discovery coincided with the conviction I had already formed, that it is necessary for cross-bite mandibular molars to be narrower, bucco-lingually, than normal-bite teeth, so that they may be set in the interalveolar crest line in cases where the interalveolar-crest-line angle is less than 70° and still leave sufficient room for the tongue.

AN IMPORTANT DISCOVERY

During the studies of these years I made a discovery which is revolutionary as to much that has been accepted in regard to the forms of occlusal surfaces. It is that the practically unbroken longitudinal groove which has characterized the occlusal surfaces of most artificial teeth since the days of Bonwill does not permit the construction of the

occlusal forms which are most efficient in mastication. It is essential that the floor of this groove be broken at least once in each tooth by a transverse plane inclined in harmony with the protrusive mandibular movements. On this plane are the facets which guide the mandible in all movements that contain a protrusive element. Because of the character of the movements for which these facets are especially formed, I have called them *protrusive facets*, and a little later I shall say more about them. They are concentric with the facets on the edges of the incisors.

WHAT CROSS-BITE TEETH ARE

Cross-bite teeth are bicuspid and molars designed especially to meet the mechanical conditions in edentulous cases where the interalveolar-crest-line angle is less than 80° and to produce artificial dentures which exhibit a high degree of stability, more masticating efficiency than is possible to artificial dentures which are not stable in position, and greater comfort than it is possible to give patients with marked resorption by the use of normal-bite teeth.

The buccal surfaces of these bicuspid and molars are similar to the same surfaces in normal-bite teeth, so that when the dentures are in the mouth, the difference between the two forms of teeth is not readily seen. The buccal cusp of the first maxillary bicuspid occludes outside the first mandibular bicuspid in the usual way. The lingual cusp of this tooth occludes with the mandibular first bicuspid, as in normal-bite teeth. The cross-bite relation begins with the mandibular second bicuspid, so that the buccal cusps of the mandibular second bicuspid and molars occlude outside the buccal cusps of the maxillary teeth. The "crossing" of the bite from normal bite to cross bite, which has heretofore been a danger point for biting the tongue or the cheek, is so arranged that biting will not occur.

As cross-bite teeth are used with the same anteriors as normal-bite bicuspid and molars, there is nothing to indicate to the casual observer that the dentures are in any way different from those usually seen.

COMPARATIVE SIZE IN NORMAL-BITE AND CROSS-BITE TEETH

Fig. 51 shows the comparative bucco-lingual widths of normal-bite molars and cross-bite molars. The bucco-lingual width of the maxillary cross-bite molars is obtained by omitting the buccal cusps of the normal-bite molars and somewhat reducing the bucco-lingual width of the lingual cusps. The bucco-lingual width of the mandibular cross-bite molars is obtained by reducing the bucco-lingual width of both the buccal and the lingual cusps of my normal-bite mandibular molars. A portion of the buccal cusp of the mandibular molar serves as an underjet to keep the cheek from between the teeth during mastication. The actual

reduction in the occlusal area, as between normal-bite teeth and cross-bite teeth, is about 33% in the mandibular teeth and 40% in the maxillary teeth.

It will at once occur to many prosthetists that this reduction in the occlusal area will reduce the efficiency of the teeth in a corresponding degree, and that this will be a serious loss to patients. It should be remembered that cross-bite teeth are indicated for cases in which, with greater knowledge, we shall probably come to regard normal-bite teeth as contra-indicated. The reduced occlusal area is better proportioned

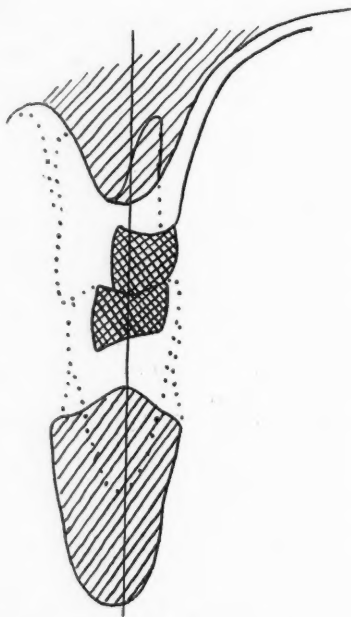


Fig. 51

Cross-bite teeth drawn upon normal-bite teeth to show the difference in bucco-lingual width.

to the force which can be exerted through artificial dentures than is the normal-bite area, and the use of cross-bite teeth will relieve the supporting mucous membrane of pressure, which often may be too severe.

Some of the most observant prosthetists now realize that the average patient cannot masticate efficiently with broad artificial molars, and they use nothing larger than medium-sized molars and once in a while set an extra pair of second molars to act as third molars in cases with big arches. They report increased efficiency from this practice.

Modern impression technic instructs dentists to extend the margins of the mandibular impressions in such way as to relieve the crest of the ridge from masticating pressure. My experience with such impressions has been that if molars with large occlusal surfaces are used on the dentures, the force employed in mastication will eventually cause the resorption of the tissues upon which the dentures rest. The reduction in force which results from the use of molars with smaller occlusal surfaces is much more favorable to the supporting tissues. It is quite impossible to make mandibular dentures for cases with ridges like those shown in Fig. 52 (same as Fig. 27), employing molars with large occlusal surfaces, without causing rapid and serious tissue destruction from pressure. Cases cannot always be operated to make the form of the ridge more favorable.

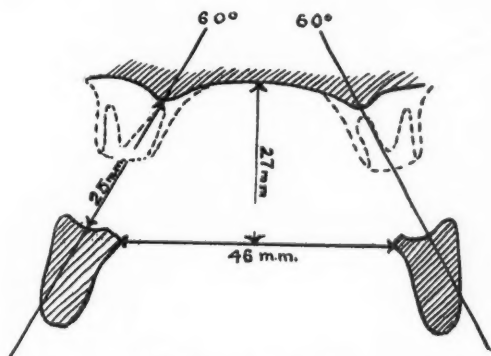


Fig. 52 (same as Fig. 27)

The approximation of the jaws has further reduced the interalveolar-crest-line angle, as compared with its size when the jaws were farther apart. The closer the bite, the smaller that angle will probably be.

There can be no question that fairly well-made cross-bite dentures will be more stable in position, in cases where they are indicated, than any dentures made with normal-bite teeth are likely to be. Stability of the dentures in all positions in mastication is one of the foundation-stones of denture efficiency, and this one factor will go far to commend cross-bite dentures in cases where the results of normal arrangement or cross-bite arrangement of normal-bite teeth have been unsatisfactory to both dentist and patient.

The reduction of the masticating area requires patients to make three masticating movements instead of two, but, owing partly to the forms of teeth and partly to the positions in which they may be set,

cross-bite dentures may be found more efficient in the mastication of moderately hard and fibrous foods than unstable normal-bite dentures can be. Furthermore, it is obviously more effective to make three masticating movements on dentures that are stable in position than to make two movements on dentures that cannot be made stable.

(To be continued)



[OUR MODERN CONCEPTION OF HEALTH]

The ancient idea of health seems to be a positive one—a condition of the body in which it is an entirety, a unity—a central force maintaining that condition; and disease being the break-up—or break-down—of that entirety into multiplicity.

The peculiarity about our modern conception of health is that it seems to be a purely negative one. So impressed are we by the myriad presence of disease—so numerous its dangers, so sudden and unforetrollable its attacks—that we have come to look upon health as the mere absence of the same.

—CARPENTER.

PERCY HOWE'S LETTERS

In Collaboration with "Brother Bill"

FINAL LETTER

My dear Doctor:

In the preceding Letters we have noted some of the effects of normal and deficient diets upon the growth of experimental animals and the health of the body, including the dental and oral tissues. We have traced some analogies between the deficient diets deliberately established for the animals and the habitual diets of many humans and have found many of the conditions prevalent in human mouths to be strikingly like those produced in the animals by the deficient diet.

Perhaps we cannot do better, in closing this series, than to summarize briefly the facts as we see them and then add a few conclusions which seem to be justified by long experience and extended observation.

SUMMARY OF CONDITIONS IN EXPERIMENTAL ANIMALS

1. Upon a normal diet all the processes of growth and maintenance go on normally.

a. A normal diet is well balanced among carbohydrates, proteins, fats, sugars, mineral salts, vitamins and roughage, all of which are essential.

2. A deficiency in one or more of these essential elements interrupts growth or metabolism, or both.

3. An excess of any of these elements may be harmful in either or both of two ways: (1) by causing the formation of toxic substances, or (2) by displacing other essentials in the diet.

4. So long as the diet is normal, it has been found impossible to cause dental caries or pyorrhea by maintaining fermentation in the mouth or by feeding or injecting the bacteria believed to be most actively associated with dental caries.

5. As a result of a deficiency in vitamins or mineral salts, or both, growth is retarded, the face form is changed and may be distorted, dental caries occurs in animals otherwise immune, and pyorrhea frequently results. The pulps of the teeth and the dentin may be destroyed from within.

6. The early stages of dental pulp destruction and of pyorrhea can be promptly arrested by restoring the balance in the diet. If the condition has not progressed too far, a cure can be effected by restoring the balance in the diet without any other treatment.

FROM ANIMALS TO HUMANS

7. Because the dental and digestive mechanisms in monkeys are practically identical in anatomy and physiology with the dental and digestive mechanisms in man, the results in monkeys should be very suggestive when applied to humans.

8. The facts that the dental apparatus in monkeys is practically identical with that of man, that monkeys in a wild state naturally choose a fruit and vegetable diet rich in carbohydrates, fats, cellulose, mineral salts and vitamins, and low in proteins, and that on this diet they maintain excellent bodily and oral health indicate that such a diet is well suited to such a dentition.

9. When we compare the results of a deficient diet upon the mouths of experimental animals with conditions which we find in human mouths, there are striking similarities. These include retardation of growth, malformation of the face and the dental arches with resulting malocclusion, caries, death of the dental pulp, and pyorrhea sometimes in young people and generally in adults. In many cases these pathological conditions are too far advanced or too long established to be cured by any change in diet or are of a kind that cannot be cured by diet, such as existing pits, fissures, malocclusion and deposits. Medical or dental interference is then necessary.

10. A normal diet for humans must contain the elements necessary to a normal diet for monkeys, in proper balance. Such elements in readily assimilable form are found in milk, fruits and green vegetables, and a normal diet for humans may well be founded upon a liberal use of these three. Laboratory workers are practically agreed that the average human diet is deficient in the elements which milk, fruits and green vegetables supply.

11. A careful comparison of the deficient diets which cause pathology in animals with the diets of humans suffering from similar pathology shows these diets to be much more alike than would appear at first glance. Human diets often contain an excess of muscle meat, cereals, sugar, seasoning such as salt, pepper, vinegar, etc., and are deficient in vitamins and mineral salts.

12. Extensive clinical experience and observation seem to show that unless the professional assistance is followed by correct diet, it is likely to be unavailing. The efforts of dentists and physicians are likely to be much more successful if the diet is corrected.

13. A dentist is generally unfitted by vocation and training to be a dietitian in an exhaustive sense of the word, but it is well within his province to suggest to patients that the diet should contain the elements known to be essential, perhaps in somewhat greater quantity than the body is known to require and in assimilable form.

14. It is highly desirable that during the periods of pregnancy and lactation the mother's organism should be protected by a liberal supply of uncooked fruits, vegetables and milk.

15. The oral and dental welfare of the child throughout life may be greatly influenced by supplying a liberal quantity of these foods to the mother during pregnancy.

16. During infancy and childhood the child needs a more liberal supply of most of these food elements, per unit of weight, than adults, and parents should be taught to see that the necessary kinds and quantities are provided.

17. When an adult age is reached, there begins the struggle to support the body against the fatigue of work and to protect it against the dangers to which it is exposed. All the results with experimental animals indicate that a well-balanced diet is the greatest protection that the body can have during this period, and that an unbalanced diet is its greatest menace. These results are confirmed by observation upon humans.

18. It is highly probable that many of the conditions with which we as dentists are struggling for the benefit of our patients are caused by deficiencies or excesses in the diet. Such conditions include a low physiological threshold, death of the dental pulp, malocclusion, extensive caries, and pyorrhea.

19. There can be little doubt that the pathology seen in the mouth is indicative of a pathological condition general throughout the body, but perhaps not so easily recognized elsewhere. Such conditions may cause neuritis, joint inflammations, and other symptoms from apparently obscure causes.

20. Much can be done for patients in middle life by correction of the diet.

21. When these principles have been sufficiently inculcated into our young people before parenthood, it is probable that children will, on the average, show throughout life a much higher level of oral health and general resistance.

Yours very truly,

Percy R. Howe



Oral Surgery In Practice

By James L. Zemsky, D.D.S., New York, N. Y.

Attending Surgeon, Department of Oral Surgery; Chief of Clinic and Director, Surgical Periodontia Department, Midtown Hospital, New York.

(Continued from November)

DISLOCATION OF THE MANDIBLE

¶184. Once the mandible has been dislocated, any time the mouth is opened wide, as in singing or yawning, the condition may recur. This is due to the formation of a broad cicatrix during the process of healing of the torn capsule.

¶185. The following procedure has proved effective in reducing a dislocation of the mandible. The patient is seated on a low stool



Fig. 173

A composite photograph of a skull showing dislocation of the mandible. *G* is the glenoid fossa, with which the head of the condyle (*C*) articulates. The articularis eminentia (*E*) prevents forward movement of the condyle. When the condyle passes the articularis eminentia and takes the position indicated by *C*, the jaw becomes dislocated. (See ¶185.)

in the corner of the room. The operator, standing in front of the patient with the palms of the hands downward, places his thumbs on the lower molars on each side and the other fingers under the mandible in such manner as to grasp the jaws firmly, the two little fingers

meeting beneath the point of the chin. While a downward pressure is exerted upon the molars and the point of the chin is raised by the two little fingers, the condyles are pushed backward into their normal position. (See Fig. 173.)

¶186. A towel, napkin or thick layer of gauze covering the thumbs placed in the patient's mouth, when a reduction of a dislocation of the mandible by *traction* is attempted, will prevent injury to the operator's hands when the jaws snap together.

¶187. An ordinary ruler, a stout stick or a piece of splint material covered by bandage muslin may be used advantageously in reduction by *prying*. The stick is placed in the mouth in such manner that one



Fig. 174

Photograph of an edentulous patient, 67 years old, with a bilateral forward dislocation of the mandible, although her appearance lacks the characteristic signs of the condition. The patient could not account for the accident, but she complained of an impediment in speech, with difficulty in deglutition and jaw movement. A roentgenographic examination clearly disclosed a forward dislocation. (See Fig. 176.)

end of it rests upon the mandibular molars on one side, while the force is exerted against the maxillary molars on the opposite side, which are used as a fulcrum.

¶188. A cracking sound and pain accompanying opening and closing of the mouth are due to either arthritis or lax ligaments of the temporomandibular joint. These may be improved by a general tonic treatment and limitation of the jaw movement until the ligaments



Fig. 175

Photograph of the same patient as in Fig. 174 taken two weeks after reduction of the dislocation. (See Fig. 177 and compare with Fig. 176; also, see Fig. 173.)



Fig. 176

Figs. 176-177

Roentgenograms of the left temporomandibular articulation of the patient in Figs. 174-175, revealing the position of the left mandibular condyle before reduction of the dislocation (Fig. 176) and afterward (Fig. 177). The case is edentulous.

C—Condyle.
E—Articularis eminentia.
G—Glenoid fossa.

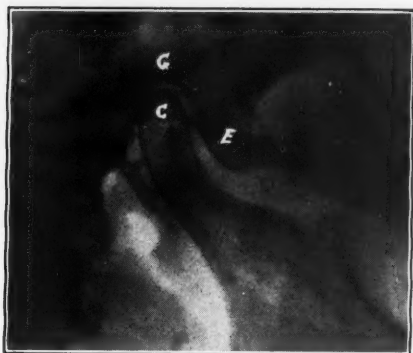


Fig. 177

regain a healthy tone. Cases not yielding to this treatment require an open operation.

¶189. Dislocation of an edentulous mandible occasionally presents difficulty in diagnosis. This is due (1) to some degree of facial deformity, which edentulous patients present (prognathism), and (2) to the lack of any occlusion. A roentgenographic examination of the temporomandibular joints will prove of inestimable value in such cases. (See Figs. 174-177.)

355 East 149th Street.

(To be continued)



Porcelain Manipulation

A PRACTICAL TECHNIC FOR THE GENERAL PRACTITIONER

By F. R. Felcher, D.D.S., Chicago, Ill.

IX

THE PORCELAIN JACKET CROWN

In cases where part of a tooth has been destroyed the porcelain jacket crown has become a popular restoration. It is not confined to partially sound teeth alone, but it is used also where the coronal portion of the tooth has been destroyed. By means of a casting simulating the lost dentin, provided the casting has the proper attention paid to it for the prevention of breakage, such as planes of stress, a beautiful restoration can be made that will far surpass the dowel or the Richmond crown and possibly give greater comfort to the patient. Either of the two types of porcelain restoration enables the operator

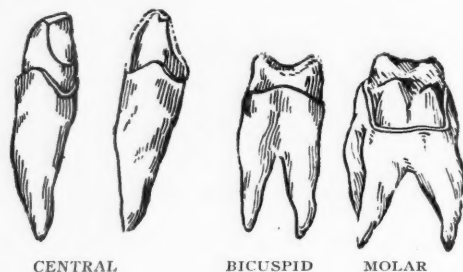


Fig. 11

Teeth prepared for jacket crowns.

to produce in the finished product the color and the natural harmony of the adjoining teeth.

Over vital teeth the porcelain jacket crown has no equal. Porcelain is a non-conductor of thermal changes and there is no material used in dental restorations that is so nicely tolerated by the tissues. When the natural protecting features of the tooth are reproduced, there will be no recession at the gum margin, and the crown will give lasting service as well as have a good appearance.

Modern dentistry demands that whenever possible the pulp of a tooth be conserved, and this is one of the features allowed by the porcelain jacket crown. A properly prepared tooth really requires little more than the removal of the enamel (Fig. 11), the exceptions being a slight shoulder below the free margin of the gum and the planes to absorb the stress for the prevention of breakage.

On studying a cross-section of a natural tooth it will be noticed that the enamel is applied somewhat as a veneer. Pulpal tissue is remote from the enamel in most instances, therefore if a preparation is made that removes little more than the enamel, it can readily be seen that pulp injury will not be frequent. The shoulder is essential in order to prevent overhanging margins of porcelain below the gum margin. If allowed to remain these may cause subsequent gum recession and interfere with the purpose of the crown, namely, that of tissue protection.

With reference to the restoration of a tooth in harmony with the adjoining teeth, it is an unquestionable fact that the color of a tooth is secondary to the contour. Teeth are classified as to types, and these types are found in certain mouths. A tooth may be off color, but if the harmony has been maintained, the tooth will appear more natural than if a perfect color has been produced and the type harmony neglected.

Color is an important factor, of course, in any restoration, but the opinion of the author is that it is secondary to the contour of the tooth. Contour produces harmony; color does not. Take, for instance, some dowel-crown restorations. The dowel crown may be perfectly matched as to color, yet while it is being fitted to the root, the destruction of the unnecessary porcelain will frequently change the type of tooth completely and the result will be that the tooth seems out of place. This condition may be remedied by the use of a lower-fusing porcelain, by means of which the contour may be restored. Still, when one figures the time it takes to complete the work, the jacket crown will be found to be the simplest, from the viewpoint of the time involved, and the results will be more gratifying.

It is not a difficult matter to build a jacket crown for a practical case because there is before the operator an articulated model, and while the crown is being built on the model, the type harmony of the adjoining teeth is easily copied. A good model is essential in this kind of work, and care must be taken to see that the impression technic is flawless, and that perfect models are made.

A knowledge of tooth anatomy will help a great deal, and for that reason considerable time should be spent in the practice of carving until one is efficiently educated or, rather, has in mind a good picture of the finished product before starting to build up the crown. Possibly the simplest method of carving technic is to carve teeth on a model. Any plaster model will do. All that is necessary is to cut away a tooth, leaving a stump, and with a good inlay wax the space may be filled and the tooth carved. By means of the model a good idea of the contour of the adjoining teeth may be obtained and alignment, contact and occlusion may be easily learned. If too much of

the wax is cut away, there is always the opportunity of adding wax. Where old jacket-crown models can be obtained, they will answer the purpose just as well.

The strongest jacket crowns will be obtained if high-fusing porcelain is used. The porcelain should be of the same fusing point, and the older method of using a high-fusing body and a medium- or low-fusing enamel is not indicated. Neither is the veneer front desirable, for in this particular type of jacket crown there are many disadvantages, one of which is that greater destruction of the tooth is necessary, and another that it is somewhat difficult to hold the veneer in place while starting to fuse. Again, in baking the crown, it is necessary to use lower-fusing porcelain in order not to burn out the veneer. Not only is it necessary to bake many times, but lower-fusing porcelains do not have the strength of the higher-fusing bodies.



Fig. 12

Typical jacket crowns.

As before stated, one of the important features in jacket-crown manipulation is the ability of the operator to produce type harmony when the entire crown is to be built. The veneer front precludes this possibility to a degree, because a ready-made veneer is used and must be used almost without change. If the user of the veneer were to grind and add porcelain to produce the contour, the time lost would naturally give preference to the use of the porcelain jacket crown made entirely from the powder.

Where sufficient attention is paid to the preparation, with proper allowance made for stress by means of planes, there will be little question relative to the strength of the crown under normal conditions. This is evidenced by the small number of failures encountered with this type of work.

7616 Phillips Avenue.

(To be continued)

The Toothbrush In Preventive and Curative Dentistry*

By Samuel Charles Miller, D.D.S., New York, N. Y.

Periodontia Clinic, New York University College of Dentistry

One of the greatest achievements in the scope of preventive and curative dentistry—and the one most often neglected by the general practitioner—is the toothbrush.

Tooth-brushing is an important factor in treatment, because it is the treatment that patients receive most frequently, approximately twice a day, while they visit the dentist once or twice a week during active treatment and only once every month, two months, or sometimes six months to a year during passive treatment. It is of importance not only as a curative agent in removing disease but as a therapeutic agent in preventing disease.

Tooth-brushing is necessary not only to cleanse the teeth, which I believe was formerly the primary function of the toothbrush, but also to stimulate the gum tissue and consequently the blood supply to the gingiva, the alveolar bone, the pericementum or peridental membrane and the tooth itself through the connection of the apical blood vessels with those of the gingival mucosa, the bone and the pericementum.

Quite often with proper tooth-brushing we see the tooth take on a luster. This is due to the removal of the mucons deposits, and mainly to the stimulation of the blood supply to that tooth indirectly. If the diet were such that the teeth and the peridental tissue received the proper stimulation during mastication, causing the blood vessels to be compressed and dilated, this method of tooth-brushing would not be necessary. Just as the muscles in our bodies aid the circulation of the blood by their contraction and relaxation, the contraction compressing the vessels driving the blood out into the veins and the relaxation allowing new blood to flow in, so do we, with the toothbrush, produce a like condition.

We know how good we feel after a work-out at the gymnasium, though this would not be necessary if we led the active lives of our ancestors. The gingival tissues of our ancestors did not need stimulation because it was produced by the diet, and since it is absent in our present mode of living, we must produce it artificially. The method has rightly been termed *physical culture for the gums*.

There were, and still are, many varied methods of brushing the teeth advocated by some of the leaders in dentistry, but the one which I consider the best is that perfected by Drs. Paul R. Stillman and John

* From a clinic before the Northwest Dental Society, New York, January 11, 1927.

Oppie McCall. It is a modification of the *Charters* method and is one that has produced good results.

A toothbrush with a short working head, long stiff bristles and a long handle is used. The procedure is, briefly, as follows:

The toothbrush is placed flat on the teeth, extending onto the gingiva as far as the alveolar mucosa or that tissue which overlies the alveolar bone, because the marginal gingiva is the only tissue that can be properly stimulated without producing any injury. The brush is now turned to an angle of 45° with the gum tissue or the long axis of the tooth, thus producing pressure on the marginal gingiva. The handle of the brush is then moved laterally about the length of the bristles in each direction without moving the points of the bristles. This will cause a blanching of the tissues, and if the brush is removed, a flushing



Diagrammatic cross-section to show how the toothbrush is held at an angle of 45° with the tooth and onto the gingiva only as far as the border of the alveolar bone.

of the area with new blood can be seen to take place. While the lateral motion or "shimmy" motion is being done, the brush is drawn over the surfaces of the teeth, thus cleaning the interproximal spaces and sweeping the teeth. This fundamental principle remains the same throughout the operation of brushing the entire mouth, both facially and lingually, and the position of the brush is changed only for convenience. The occlusal surfaces are brushed as before. The solution which is used for dipping the brush is essentially Prinz's formula and contains the following ingredients:

Sodium chlorid	1 lb.
Calcium oxid	100 grains
Menthol	15 "
Saccharin	7 "
Phenol phthalein	2 "

A teaspoonful is dissolved in a full glass of water, making approximately a normal saline solution. This solution is a mucin solvent and also tends to soften microbic plaques.

This method of brushing the teeth should be taught to all patients at the time of prophylactic treatment and should be followed up by the dentist.

264 Lexington Avenue.



[TOLERANCE]

Intolerance is at the basis of most of the contention among men, tolerance tends to harmony and good team work. Tolerance does not, in any way, mean a sacrifice of convictions or a concession to conscience. It means simply breadth of vision and liberality of mind. It means bigness of intellect, and power, and sureness, and grasp of things. Someone has said that tolerance "does not mean that one should not fight for his convictions, but he should do so with the recognition of the right of the other man to fight for his as well."

—JOHNSON.

Some Significant Facts In Oral Focal Infection

By Leonard N. Ray, D.D.S., Altoona, Pa.

There is perhaps no subject before the medical and dental professions today that is absorbing so much time and attention as that of focal infection. At least, a perusal of the volumes of literature of the past decade would readily indicate its importance, and well it might when we but consider that the prevention of disease is of primary importance. It is not a far look backward to the time when Harvey discovered that blood circulated through the arteries and veins, while Pasteur, Koch and others found that certain organisms would produce a specific disease. A focus of infection as an etiologic factor in systemic disease is a proved fact, and its diagnosing demands a closer cooperation of those engaged in the science of healing.

The underlying principles of oral focal infection are the same as those governing infection in general. Merely the presence of pathogenic organisms upon or in living tissues or fluids of the body does not cause infection *per se*, but there are certain secondary factors controlling reaction between the invading organism and the body defenses. Focal infection is a type of infection, a circumscribed area of tissue harboring pathogenic microorganisms capable of metastasis.

The condition of the teeth and their investing tissues means much to the one who is searching for a focus of infection, for persons who are comparatively well may at some future time develop a disease that can destroy health and mar happiness or possibly cost their lives.

It is good practice to roentgenograph all areas of the maxilla and mandible regardless of whether the teeth have already been removed, as it has frequently been found that small fragments of teeth or the apices of roots remain from previous extractions and may cause trouble at any time. This is certainly due the patient in the present light of research in the medico-dental problem. However, occasionally we find that roentgenographic evidence and also transillumination, as well as other available means for definite diagnosis, fail as an indicator of the absence or presence of apical infection, possibly because the mechanism of infection lacks definite uniformity in its toxicity of the invading organisms, when pitted against the immunizing power of the host, and determines the resultant pathological changes. Even the eradication of the primary foci may fail to modify the course of the disease. However, it is incumbent on the dental profession, according to Martin, to locate and eliminate only 15% of all focal infections, as 85% of them are found elsewhere in the body. Unquestionably the elimination of all dental foci, in patients with broken resistance and lowered vitality of health, should be the advice of all physicians and every dentist's duty.

CASE 1

A woman, aged 46, married, complained of a generally weakened condition and a very tired feeling by afternoon, was losing weight and experienced palpitation of the heart. The lower teeth were to be roentgenographed. It was suggested that the edentulous maxilla be roentgenographed, even though the teeth had been extracted about ten years before. Roentgenographic findings showed imbedded roots in the maxilla. Of course, the patient could not believe this until the roots were removed. In ten days a marked improvement was noted, in three months a gain in weight of six pounds occurred and the patient was feeling much better.

CASE 2

A woman, aged 50, married, complained of a peculiar numb feeling in the head, face and extremities, with loss of appetite and wakening at night because of the numb feeling. Examination of her teeth showed several with large dental restorations and an ill-fitting gold crown. A roentgenogram showed four teeth with extensive areas of pathology about the apex of the roots; also two roots of superior bicuspids which had been left from a former extraction, with rarified areas, and had established drainage into the antrum. An antero-posterior picture showed the antrum to be congested. The affected teeth and roots were removed and the antrum washed out. The numb feeling had practically left in two weeks, and in six weeks she felt much improved.

CASE 3

A woman, aged 38, married, complained of neuritis for quite some time. Often the pain was so severe that she was unable to raise her hand. Roentgenographic findings showed an upper right first bicuspid with a large cavity involving the pulp, and the root of the tooth showed considerable exostosis. The tooth was removed under nitrous oxid and oxygen, and within ten days the patient had recovered. There was no recurrence of pain.

CASE 4

A man, aged 57, desired to have an oral examination and, if necessary, roentgenograms of the teeth. His blood pressure was about 210. Clinical examination showed the gums swollen, and pressure upon the gums revealed an exudate of pus and blood. Roentgenographic findings showed destruction of the crest of the alveolar spine about a number of the teeth. The superior left cuspid had a large granuloma. Other teeth showed evidences that putrescent pulps were discharging toxins, due to the eroded condition of the roots of the teeth, yet he experienced very little or no pain. The teeth were removed serially and a

period of eight to ten days was allowed for anaphylaxis. By the time half of the teeth were removed, the blood pressure was down to 190. In three months after all the teeth were removed the blood pressure was down to 160 and the patient felt as if he had a new lease on life.

There is much evidence that those who have had wide clinical experience and have carefully studied apical infections in their various causative relations and effects to secondary disease are cognizant of the fact that they do cause diseases, and that the metastatic involvements are frequently much more serious than the primary focus.

CONCLUSIONS

(1) Dental foci play a very important part as primary areas of infection, and a recognition of these areas is common ground for medicine and dentistry.

(2) It is quite impossible to effect a cure so long as these areas of primary focus continue to discharge their contents into the blood and lymph systems.

(3) All pulpless teeth should be checked by roentgenograms at least annually to determine their status; also, all areas where possible fragments of roots might be remaining should be roentgenographed.

Central Trust Building.



Vincent's Angina

SOME CLINICAL CONSIDERATIONS

By Louis Wack, D.D.S., New York, N. Y.

Chief, Dental Department, Cornell Clinic

Since the termination of the World War the pathological syndrome known as *Vincent's angina* or *trench mouth* has been presenting itself more and more frequently in dental practice. The word *angina* refers to a choking off of the respiration. Webster's Collegiate Dictionary defines it thus: "Any inflammatory affection of the throat or fauces, especially one causing suffocative spasms." For example, *angina pectoris* is a cardiac "dysfunction" causing a choking sensation, and Ludwig's angina is an infective swelling of the tissues forming the floor of the mouth, causing actual throttling of respiration.

The association of choking with the symptoms caused by the invasion of the human body by Vincent's spirilla refers more specifically to infections of the throat produced by this organism. We, as dentists, will seldom see such a condition, because throat infections do not fall within the scope of our work, and patients having Vincent's infection of the gums do not show this condition in the throat. It might therefore be more rational to designate this condition as simply Vincent's infection or Vincent's gingivitis, rather than Vincent's angina. Vincent's angina differs from ordinary periodontoclasia in many ways, the particular distinction that impresses itself upon the patient's notice being pain. This is almost always present and is sometimes so severe as to prevent sleep. Another difference is in the quantity of bleeding, which is more profuse and more apt to be spontaneous in Vincent's than in pyorrhea, hemorrhage frequently occurring independently of brushing or eating.

One of my Vincent's patients was also a hemophiliac and had the additional disadvantage of being a very fastidious young man. The difficulty of controlling the hemorrhage occasioned him great distress. Another of my cases illustrative of the tendency to hemorrhage caused by Vincent's spirilla and the mental pain this symptom can bring about was that of a man living in a rooming house. His gums bled so profusely at night during his sleep as to soil his pillow and bed-clothing sadly. The patient complained to me that this caused decidedly strained relations between his landlady and himself. Fortunately, the first intravenous arsphenamin injection alleviated the bleeding and relieved him of the necessity of changing his lodgings.

Vincent's infection attacks the alveolar bone as well as the gum tissue, beginning at the surface in the interproximal space and working apically through soft and hard tissue alike. The area of destruction

is marked by a very sensitive ulcer coated with a yellowish slough of membrane, resembling—and sometimes confused with—a diphtheric membrane. These ulcers are generally labial or buccal, seldom lingual, and are particularly marked in the region of a partially erupted third molar or in those abnormal gum interstices caused by faulty alignment of teeth. A flap of gum tissue in a lower third molar region will frequently be seen to be the original portal of entry of the infection.

Interproximal tissue, both hard and soft, is sometimes destroyed to so great a depth that, after resolution of the disease, a hollowed-out area is left sufficiently large to accommodate a large-sized pea. The underlying bone is left intact, however, so that loosening of the teeth is not brought about. As is the case with pyorrhea, that tissue which is destroyed is irrevocably lost, the depressions resulting from the inroads of the bacteria being permanent.

Bacteriological examination may be of occasional assistance, but I believe the clinical symptoms are of more importance to the trained diagnostician. The Vincent's organisms are frequently to be found in mouths in such obvious good health that a diagnosis of Vincent's angina would be utterly absurd. On the other hand, I have had a physician as a patient whose gums showed a typical condition of Vincent's angina, but the bacteriological test was reported as being negative for this disease. It might be of interest to note that at the time of the onset of his gum symptoms this physician was in attendance upon a patient for Vincent's infection of the lungs.

Vincent's infection is pre-eminently a disease of youth. I have seen but one case in a person over 40 years of age, and indeed the majority of cases are in persons under thirty. Men seem to be more predisposed to it than women, possibly because the irritation due to smoking renders the oral tissues less resistant to the organism. An interesting point is that the great majority of my patients gave a history of eating many of their meals in restaurants. It is probable that contaminated, imperfectly cleaned knives, forks, spoons, glasses and cups play a large part in the dissemination of the disease. Kissing is undoubtedly a means of communication.

Patients should be warned of the highly infectious nature of their condition. They should not eat in public restaurants. Their dishes and silver should be boiled after each use. All kissing is to be strictly prohibited. I have found intelligent patients very co-operative in attempting to limit the spread of the disease to other persons.

Individuals with clean teeth and healthy gums who attend seriously to the task of keeping their mouths thoroughly healthy contract Vincent's much less frequently than those who are negligent. The presence of pyorrhea confers no immunity, but, on the contrary, predisposes to infection by the spirilla. Attacks tend to recur when, after

recovery, the patient again becomes careless as to home dental prophylaxis.

Although the Vincent's spirilla may be found in normal mouths, in such cases they are probably of an avirulent strain and not contagious; otherwise infection of one person by another would be so frequent in occurrence as to produce many more cases than are now to be seen.

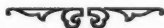
Vincent's angina is an acute infectious condition and, as such, will in a large percentage of cases be overcome sooner or later by the natural resistance mechanism of the body. However, if left to this termination, and, indeed, if treatments be delayed, the recovery from the acute infective condition will leave the patient with a very stubborn case of pyorrhea. The farther the ulcers are permitted to progress before the recession of the condition, the greater will be the resultant permanent scooped-out areas in the interdental gum and alveolar bone tissues.

To sum up, the differences between Vincent's infection of the gums and pyorrhea are:

VINCENT'S	PYORRHEA
Usually considerable pain and soreness.	Usually no pain.
Sudden onset.	Slow onset.
Ulcers, covered with yellowish slough.	No ulcers.
Some fever (usually slight).	No fever.
Bleeding usually spontaneous.	Bleeding usually dependent on brushing or eating.
Bacteriological test usually positive for Vincent's spirilla.	Bacteriological test usually negative for Vincent's spirilla.
Patients usually between 20 and 35 years of age.	Patients usually over 35 years of age.

In connection with the word *usually* in this differential diagnosis it must be borne in mind that a diagnosis of Vincent's infection is dependent upon the evaluation of all the symptoms as a whole. The clinical picture is not dependent upon any one particular symptom. Several of the symptoms may be lacking and yet the diagnosis may be perfectly plain.

2877 Grand Concourse.



Studies In the Etiology of Approximal and Gingival Caries*

By John Oppie McCall, A.B., D.D.S., F.A.A.P., F.A.C.D., New York, N. Y.

A SUMMARY

For a long period of years man has been seeking the cause of caries. Many theories have been advanced and discarded. Only two, and these greatly modified, have survived up to the present time, the vitalistic theory and the theory of acid production.

Little has been done in regard to the etiology of the various types of cavities. The nearest that we have is Black's division into *pit and fissure* and *smooth surface* cavities. This classification is inadequate, for while *pit and fissure* cavities probably have a definite etiology, all other cavities are grouped as *smooth surface* cavities. The difference in *smooth surface* cavities presupposes a difference in etiology. The so-called *unclean area* does not satisfactorily explain it.

The etiology of *pit and fissure* cavities is evident. The fissures form an ideal lodging-place for acid-producing bacteria. This acid is generally accepted to be the exciting cause of caries. It is almost impossible to keep these fissures clean. However, if acid were the sole cause, then we should find caries in 100 per cent of the fissures, but this is not the case. A certain small percentage seem to be immune. In these cases there must be some means of neutralizing the acids that have been formed. The only external means is the saliva, but owing to the anatomy of the fissure this cannot readily gain access. Therefore it would seem that there must be some internal means of defense. This brings us to the vitalistic theory, which claims that there is within the tooth a certain ability to resist caries. This contains probably biologic and chemical elements. The essayist terms this *caries resistance*. Caries resistance is brought about by an osmotic circulation in the dentin originating in the pulp. To be of value, this presupposes a supply of alkaline salts in the blood stream. As an additional means of defense certain changes take place between the cavity and the pulp. The dentinal tubuli are partially obliterated and secondary dentin is formed. This is due to a systemic condition probably based on nutrition.

Formerly it was believed that *smooth surface* cavities could occur only where a mucoid plaque formed. This, however, is not always so. If the gingival third of the labial surface is an unclean area, then it should invariably develop cavities in uncared-for mouths. We know that this does not always happen.

* The entire paper was read before the Preventive Dentistry Section, First District Dental Society, New York, March 15, 1926.

Furthermore, we have long believed that the approximal surfaces of the teeth are protected by the interdental gingival papilla, and that consequently there can be no plaque formation. Nevertheless, approximal caries as a rule has its starting point in the majority of cases at a point that is covered by the gingival tissue, and it is only after caries has become well advanced that the gingival tissue begins to recede.

Therefore it is apparent that the bacterial plaque is not of prime importance in the causation of caries. What then is the cause? The essayist wishes to bring forward the theory of *localized acidity*. He states it in this way: "The more or less continuous production of acid from whatever source in a restricted locus either will result in superficial decalcification of enamel or will in itself promote the proliferation of bacteria which are capable of producing the mucoid plaque." This would account for chalky and pitted enamel on surfaces where no plaque can be demonstrated.

The possible sources of this acid are as follows: saliva, fermentation of food particles, by-products of mucoid plaque formation, and perverted exudate from the gingival crevice. Normal saliva is very faintly acid (Gans. J.A.D.A. Feb., 1926), but so slightly so as to be practically neutral. Furthermore, under widely varying conditions the reaction changes very little. So saliva may be excluded as a source of acidity.

The fermentation of food, especially carbohydrates, is a real source of acidity, provided that the areas are habitually coated with fermenting material. But we find decalcification where this does not exist.

The presence of the mucoid plaque does not provide a universal explanation for decalcification.

We finally come to the acidity of a localized fluid exudate. The particular spot at which this may occur is the tissue of the marginal gingiva. By its apposition with the enamel this forms a crevice. One of its walls is the mucous membrane and from this exudes a serous fluid, a large part of which comes from the blood. When the tissue is in a state of health, this exudate may be assumed to have the same reaction as that of the blood, namely, alkaline. But when the tissue is diseased, we frequently find an acid reaction, which may be demonstrated by suitable tests.

This frequently causes a tooth to become sensitive at the gingival margin, the treatment consisting of the application of alkaline substances. Now, while this exudate may not be sufficiently acid to produce decalcification, it certainly favors the proliferation of acid-forming bacteria. Consequently the exciting cause of the decalcification is the departure from health of the marginal gingiva.

This loss of health is not always discernible to the eye and, in consequence, is deceiving. It has been demonstrated by Box that a gingiva that seems perfectly normal may nevertheless be in a patho-

logical condition. Stillman has made the statement that in all cases of superficial enamel decay he has found evidences of gingival inflammation. In cases of recession, though the gum may be pink in color and firm in texture, there is always a low-grade inflammation.

The attempt has been made to show that systemic conditions may cause gingival inflammation, but without success. However, we do know that it may be brought on by calculus, overhanging fillings and traumatic occlusion, the last because it produces abnormalities in the local circulation. All this may occur with little or no clinical evidence.

It has always been recognized that the sensitiveness of a tooth comes from the presence of acid. This is proved by the universal use of antacid preparations. The only new thought is that the source of the acid is the inflammation of the gingiva. The production of the acid has been difficult to determine because the indicators used have been unsatisfactory.

Phenolphthalein is a very delicate indicator, but is not ideal in that it reacts to a slightly alkaline medium, is affected by carbon dioxide and does not react well in the presence of ammonia. However, it has been possible to produce an alkaline salt of phenolphthalein that will be decolorized by an acidity greater than normal and will retain its color if the acidity is within normal range.

The essayist uses an absorbent paper saturated with an alkalinized alcoholic solution of phenolphthalein and permitted to dry. The formula of the solution is:

Phenolphthalein	grs.	I
Alcohol	grs.	LX
Sodi Sulphide Sol.	grs.	V
The sodium sulphide solution is:		
Sodium Sulphide	grs.	XX
Aqua	z	I

If the test paper is brought in contact with the fluid at the neck of a sound tooth and the gingival tissue is healthy, it will retain its deep red color, with the exception of a slight fading at the extreme edge of the paper. When there is inflammation present, a more pronounced bleaching will be seen, the degree being in direct proportion to the amount of inflammation. This method is not absolutely accurate, but it is the best that the essayist knows of. It may be depended on for comparison between different locations in the same mouth. He has proved to his satisfaction that the gingival margin around teeth free from caries but affected by traumatic occlusion will give an acid reaction, even though there is no visible sign of inflammation. The fact that there is no caries may be explained by the theory of caries resist-

ance, which is due to chemical and biologic causes and also to the manner in which the enamel was laid down.

Senile decay may easily be explained by this theory. The conditions are particularly favorable for the concentration of an acid fluid together with the lowering of the element of caries resistance due to infirmities and nutritional unbalance.

Caries at an early age, on surfaces covered by the gingival papilla, we must account for by acid formation, due to gingival inflammation from traumatic occlusion plus inferior caries resistance and possible inferior enamel structure.



[ACTINIC RAYS]

Glass cuts off that part of the radiant energy from the sun which is most effective in producing activation of body chemicals for the proper utilization of calcium. Hence the efficiency of the sun bath behind a glass window is very much less than that obtained in the direct sunshine. The artificial smoke screens which have been allowed to be produced over our centers of civilization become an extreme menace to modern life. Rickets and its associated disturbances are not found in countries with abundance of sunshine but becomes rapidly more frequent and serious as the north temperate zone is entered.

—PRICE.

Acute Infections of the Jaws and Teeth*

By Chalmers J. Lyons, D.D.S., Ann Arbor, Mich.

A SUMMARY

The subject is large and only certain points can be touched on. The chief problem is that of etiology, whether the infection is purely local or the result of some general systemic trouble. A great asset is the close co-operation with a dermatologist, especially in regard to lesions appearing on the face and mucous membrane.

Probably the most common acute infection is the acute alveolar abscess. Some of these are very hard to control. The symptoms vary in intensity, due to (a) the type of organism, (b) its degree of virulence, (c) the resistance of the individual. The temperature may rise to 104° or 105°. The lymph glands are unable to carry off the products of infection, and edema results. There is generally intense pain, which decreases as liquefaction takes place and pus is formed. The temperature then drops.

The reaction is more severe as a rule when it occurs in the mandible, because of the density of the bone. The swelling is slower and more pronounced. The pus may penetrate a long way, the point of exit being sometimes fully six inches from the seat of infection.

There are two principles in treatment: (1) remove the source of irritation, (2) establish drainage. During leukocytosis, and before liquefaction takes place, the patient is sick. He has septic intoxication, and surgical interference is dangerous since it may result in septicemia.

When drainage is to be established, a linear incision is made with a scalpel followed by blunt dissection with round-nosed hemostatic forceps. When the pus area has been entered, the forceps are opened and withdrawn in that position. The essayist follows this by the use of a cigaret drain for a day or two.

One of the problems of the young practitioner is whether or not to extract in these cases of acute alveolar abscesses. The patient feels that this will give relief and often demands the operation. It is generally a dangerous procedure to undertake before pus has formed and may terminate fatally. One rule may be safely followed: If the extraction will provide drainage through the socket, then extract; otherwise wait.

The subperiosteal abscess is really osteomyelitis. It begins as an acute abscess and cuts off the circulation from the bone. Drainage is the first procedure, followed by the removal of sequestra as they form. The blood supply must be re-established. Too much curettage should

* This paper was read before the Oral Surgery Section, First District Dental Society, New York, February 16, 1927.

be avoided, as it may spread the infection. The disease runs a slow course and the patient should be warned that it may be weeks or even months before the parts are restored to normal.

Acute maxillary sinusitis occurs in a region that is disputed by the rhinologist and the oral surgeon, each claiming it as his field. The best results are obtained by co-operation. There are three cardinal principles in the treatment: (1) the elimination of infection, (2) the establishment of drainage, (3) the maintenance of ventilation. If these are carried out, the sinus will get well.

Teeth have been too greatly emphasized as the cause of this trouble, because in the majority of cases it comes from an accessory sinus. If the latter is the cause of a particular case, no amount of opening through the canine fossa will be of any value. Consequently the source of the infection must be absolutely established, and it is here that co-operation with the rhinologist is of value.

If the trouble arises in an accessory sinus, the case belongs to the rhinologist; if it comes from the alveolar process, the oral surgeon should handle it. It is a serious thing to open into a sinus, for the membrane lining it is never normal again. The essayist recommends irrigation with a normal saline solution.

Vincent's infection is becoming more and more prevalent. It is caused by an anaerobic bacillus. A gray, necrotic membrane forms, which, when removed, leaves a bleeding surface. The infection generally starts under the flap in the third molar region or in a pocket between the teeth. It is more apt to occur in mouths that are not well cared for. The disease is very painful and is accompanied as a rule by chills and fever and a high temperature. The saliva is thick and ropy and profuse.

Neo-arsphenamine is used for one day with a mouth wash of 5% H_2O_2 . This is followed by a copper sulphate solution. When conditions make it possible, the teeth should be cleaned and polished.

Noma is a rapidly progressive gangrene of the cheek, generally occurring in children between the age of 3 and 14 years. It is generally a sequela to something else. It first appears at the corner of the mouth and is generally unilateral. The prognosis is not good and about 75% of the cases are fatal. Fortunately it does not occur very frequently. The treatment consists of excision and irrigation with potassium permanganate.

In all acute conditions the diagnosis is the most important thing. Some of the points to be emphasized are: the history of the lesion, the time of its appearance, its location, whether or not there was any trauma connected with its appearance, the presence of syphilis or tuberculosis, the presence or absence of pain. The infection must be identified and the etiology established if the treatment is to be a success.

Partial Control of Failures and Variables In the Casting Process*

By Herman A. Maves, D.D.S., Minneapolis, Minn.

A SUMMARY

The chief aim of dentistry is the conservation of health, and a thorough understanding of histology, physiology and pathology is necessary. We must try to raise the standards, and the stepping stones are research, knowledge and teaching. Education is the chief need of the world, with freedom for research and teaching.

Taggart was the pioneer in the art of casting, but the time has come when we must scrap the old ideal. We must face the fact that inlays do not fit. Service must be placed above selfishness and greed.

There is a lack of scientific research on the subject of casting, and a greater knowledge is needed of metallurgy and the expansion and contraction of waxes and investments. The fact that a great many dentists have turned to gold foil and amalgam is a sign that the inlay is not what it should be. Furthermore, the patients are beginning to complain when inlays drop out so frequently and inlay abutments loosen.

The variables that enter into the casting process are responsible for the fact that our results have fallen short of the ideal. Many things have been tried—hot moulds, cold moulds, and back to hot moulds again. To cap the climax, an inlay cement has been put on the market so that our deficiencies may be hidden.

We must put forth a continuous effort to perfect the mechanics of the technic. At the present time prevention is utterly unable to stop the ravages of decay and can be regarded only as the hope of the future.

These variables are responsible for:

- (1) The expansion and contraction of waxes.
- (2) The deficiency at the gingival margins.
- (3) The shrinkage of buccal, lingual and occlusal margins, inviting leakage and decay.
- (4) The fracture of cusps when attempting to seat the inlay. The essayist said that he saw in one mouth three palatal cusps of bicuspid split off to below the gum line. This was done when the inlays were set and was due to the fact that the inlay was larger than the original wax pattern.
- (5) Strangulation of the cells of the dentin followed in many instances by the death of the pulp.

* The paper was read before the First District Dental Society of New York, March 7, 1927.

- (6) Trauma to the peridental membrane when driving the casting to place.
- (7) Expansion of the tooth walls during the setting stage of the cement. This is proved again and again by the fact that when an inlay is tried in, it is perfectly flush with the walls of the cavity, but after it has set, an explorer will catch at the margins.

These things must be eliminated if we are to produce satisfactory castings. In 1910 Van Horn and Meyer of Minneapolis, Minnesota, advocated the general principles that are governing the essayist's technic today. At that time Van Horn and Meyer were laughed at and unheeded.

The status of bridgework is far from satisfactory. Its success depends upon the ability of the abutment teeth to carry the load, and this is governed by the length of the roots and their inclination, together with the condition of the investing tissues. The success or failure of a bridge may be recognized by the condition of these tissues.

Faulty occlusion is the chief cause of failure in bridgework. Articulation is the basis of all dentistry, and cases should be mounted on an articulator that will register the movements of the individual. The condyle paths that are present in the patient must be followed and we must not try to establish new ones.

We have no cause to flatter ourselves on the bridgework that we are doing today. A large percentage of the work is no better, and a great deal is worse, than that done twenty-five years ago.

Our mechanical technic must be perfected. The cast must duplicate the wax pattern. It has been shown that for every 5° drop in temperature there is a shrinkage in the wax of 1/10 of 1 per cent. If a pattern is taken from the mouth at a temperature of 96°, brought down to room temperature of 70°, and then placed in tap water, there is going to be a discrepancy of about 9/1000 of an inch in a wax cylinder 1 inch long and 2 mm. in diameter. In addition to this, there is a shrinkage in gold of about 1.4 to 1.7.

The essayist chills the wax in the mouth, sometimes easing the pattern by cutting across it and then joining the two parts with wax. The investment is mixed hot, rapid elimination is used, and the casting is done in a hot mould. Consequently the wax is expanded as much as possible without distortion, and this offsets the shrinkage of the gold, wax, and investment.

For small inlays, Knapp No. 1* investment is used alone. For

* Knapp No. 1 investment consists of approximately equal quantities of hard plaster and medium-ground crystalline silica.

large castings Knapp No. 1 is used for the first coating, and the second investment may be made from almost any other formula that permits mixing in advance of No. 1 and remains soft enough to pour over No. 1 while soft also. The second investment is put on while the first is still soft. If a pressure machine is used, the casting should be made with 12 to 15 pounds' pressure instead of the usual 5 pounds. Centrifugal machines may be used successfully.

By this method the essayist is producing castings which are practically perfect. They have been made for steel dies and porcelain, which is the supreme test, and no discrepancies can be discovered with the naked eye.



[DENTAL EDUCATION'S NEEDS]

Dental education cannot achieve its greatest degree of usefulness until the universities, accepting dental practice as an important division of general health service, give their dental schools adequate financial support, raise the quality of dental teaching to the high plane of excellence that its responsibility requires, provide suitable library facilities for dental students, promote graduate work and research in every aspect of stomatology, and set before dentistry the loftiest ideals of professional character and attainment.

—GIES.

Togo's "Discursions"

*Mr. Editor of Dental Magazine Displaying
Outdoor Photography While Doing So.*

Hon. Sir:

Present D.D.S. Boss of considerable years and observation now enjoying fragmentary benefits of Oriental assistance while personally conducting extensive inside job of Dental Practice recently exploded with following results:—"Togo! Dental Profession is now performing highly remunerative but extremely dangerous tooth installations which will presently return to bite the hand which made them.

"I allude (continue Hon. Boss) to large percentage of strap metal and gold lace partial dentures produced chiefly in laboratories which never saw a single patient in living state but which are instructing more or less intelligent Dentists of U.S.A. by illustrated lectures and high power salesmanship, how incomes may be increased without interfering with golf games, bridge tournaments or prolonged vacations.

"For example consider typical case of Miss Watson who has just departed from office under her own power in state of pleased serenity and great peace of mind after installation of 2 fixed bridges which I have just inserted as satisfactory substitutes for one gold bar mistake inserted by previous operator who made easy money but quick exit from serving same discriminating patient.

"Let us carefully spread Miss Watson's problem out and look at it. Sixteen months previous to first call at my office Miss Watson went to one of numerous fellow dentists of undoubted skill and honesty and submitted herself to guidance and service in shape of installation of cast gold removable bridge which supplies all four bicuspid on upper jaw, for slight cash payment of 125 iron men.

"Appliance flatteringly designated as removable bridge was in point of fact only partial plate with flattened gold bar across palate and well-fitting clasps enclosing molar and cuspid teeth in fond embrace; like all similar undertakings it was never capable of performing real job of chewing and clasps on cuspid teeth were in plain sight and highly objectionable even when plate was first installed and before said teeth became highly sensitive at gingival border which they presently did to such extent that some relief became necessary; therefore, just before first visit to me, Miss Watson made back track to D.D.S. who had made restoration as noted, elucidating symptoms and conditions and making inquiry of 'Where do I go from here and for how much?' to which previous D.D.S. smilingly replied, 'New removable bridge for additional cash payment of 175 sinkers is now indicated as plausible solution—thank you!' To which Miss Watson replied: 'Important engage-

ment requires I should now be extremely elsewhere as soon as possible. I will return considerably later if at all.'

"She then made first appearance in my office and with real tears related story as set forth in language already promulgated, concluding with oratory having direct bearing on subject now being considered, as follows—'Doctor I am working very hard in good paying position and cannot expect large increase in salary during present lifetime, with aged Mother to support and other etc., requiring cash disbursements; continuous outlay of approximately \$100.00 per year for Dental Services is amount too heavy for personal budget. Please excuse slight tears due to deep disappointment over results of last cash outlay as noted.'

"Togo," continue Hon. Boss while pacing back and forth to relieve growing excitement, "case of Miss Watson is only one of several coming under personal notice during last few months. High power special demonstrators and salesmen have apparently been able to persuade extensive number of Dentists that one impression, one bite, one tooth shade and one salesmanship talk to patient is sufficient personal effort to bestow upon human being already suffering from serious consequences of partial collapse of chewing and smiling equipment.

"Results are beginning to appear in form of migration of large numbers of disgusted patients who still believe that dental services rendered with operating skill and proper instruments are far superior to results obtained with impression trays, salesmanship, and conversation plus the best laboratory assistance on earth.

"Laboratories are important and necessary part of modern dental practice—no intelligent man can afford to do without their proper help—but the line of proceedings which means largest fees to the laboratory does not necessarily mean in all cases the service which will be of greatest net value to Hon. Patient!

"Miss Watson now has two fixed bridges resting exclusively on vital abutment teeth, she has no gold whatever showing on either cuspids or molars, she has nothing depending in any way for support on sensitive gum tissue, her smile is 100 per cent OK and her chewing ability is almost as good, and if my 35 years' experience in this line of indoor sport teaches me anything her dental bills for the next 10 years will average less than \$5.00 per each year.

"Perhaps such benefits will continue for 20 years—I have often beheld such pleasing results in similar cases.

"Yes, Togo, it is undesirable fact that Dr. Previous D.D.S. earned first and only fee collected by himself with less personal effort and with higher wage rate per hour than Yours Truly; but to what office will Miss Watson refer her friends during said period and of which

practitioner will she speak in terms of satisfaction when the subject of dental service is up for discussion and why?

"Facts as noted in case of Miss Watson are fairly typical in very large proportion of similar cases when handled along lines now being considered, take it from your old Boss, Togo; a lot of these easy money, laboratory patrons are asking Hon. Gen. Disaster to deliver one of his most telling wallops in the financial center of their offices during the next few years."

I wonder Mr. Editor if Hon. Boss was not approximately correct in statements as quoted; numerous reflections on situation seem to indicate such probability for he has been on present job nearly 40 years and seems to have made use of powers of observation and deduction during all that time with excellent results to patient as well as Hon. Self. He is not rendered helpless in presence of new ideas or he would not be putting on porcelain jackets on nearly all anteriors where angle is involved, or gold inlays in all approximal cavities in molar and bicuspid teeth. Large numbers of intelligent patients swear by him and I never knew one of them to swear at him!

Am submitting rather lengthy letter for subject seems of great importance.

Hoping you are the same,

Togo.



Classification of the Dental Schools of the United States

BY THE

DENTAL EDUCATIONAL COUNCIL OF AMERICA AUGUST 1, 1927

(Schools are listed in alphabetical sequence by states for convenience only, the order of presentation within each class having no significance. Last previous classification issued August 1, 1926.)

CLASS A

University of Southern California, College of Dentistry, Los Angeles, Cal.
Atlanta-Southern Dental College, Atlanta, Ga.
Chicago College of Dental Surgery, Dental Department of Loyola University, Chicago, Ill.
Northwestern University Dental School, Chicago, Ill.
University of Illinois, College of Dentistry, Chicago, Ill.
State University of Iowa, College of Dentistry, Iowa City, Iowa.
University of Louisville, College of Dentistry, Louisville, Ky.
Loyola University, School of Dentistry, New Orleans, La.
Harvard University Dental School, Boston, Mass.
Tufts College, Dental School, Boston, Mass.
University of Michigan, College of Dental Surgery, Ann Arbor, Mich.
University of Minnesota, College of Dentistry, Minneapolis, Minn.
Kansas City-Western Dental College, Kansas City, Mo.
St. Louis University School of Dentistry, St. Louis, Mo.
Washington University School of Dentistry, St. Louis, Mo.
Creighton University, College of Dentistry, Omaha, Neb.
University of Buffalo, College of Dentistry, Buffalo, N. Y.
Ohio State University, College of Dentistry, Columbus, Ohio.
Western Reserve University Dental School, Cleveland, Ohio.
North Pacific College of Oregon, Portland, Oregon.
Thomas W. Evans Museum and Dental Institute, School of Dentistry, University of Pennsylvania, Philadelphia, Pa.
University of Pittsburgh, School of Dentistry, Pittsburgh, Pa.
University of Tennessee, College of Dentistry, Memphis, Tenn.
Baylor University, College of Dentistry, Dallas, Tex.
Medical College of Virginia, School of Dentistry, Richmond, Va.
Marquette University, College of Dentistry, Milwaukee, Wis.

CLASS B

*College of Physicians and Surgeons of San Francisco, San Francisco, Cal.

University of Denver, School of Dentistry, Denver, Colo.

(Formerly Colorado College of Dental Surgery.)

Georgetown University, Dental Department, Washington, D. C.

Howard University Dental College, Washington, D. C.

*Indiana University School of Dentistry, Indianapolis, Ind.

(Formerly Indiana Dental College.)

Tulane University of Louisiana, School of Dentistry, New Orleans, La.

Baltimore College of Dental Surgery, Dental School, University of Maryland, Baltimore, Md.

(Baltimore College of Dental Surgery was merged with it on June 15, 1923.)

University of Nebraska, College of Dentistry, Lincoln, Neb.

Columbia University School of Dentistry, New York, N. Y.

(Incorporated with the College of Dental and Oral Surgery of New York, July 1, 1923.)

New York University, College of Dentistry, New York, N. Y.

(New York College of Dentistry was merged with it on June 29, 1925.)

Temple University Dental School, Philadelphia, Pa.

(Formerly Philadelphia Dental College.)

Meharry Dental College, Nashville, Tenn.

UNCLASSIFIED

University of California, Dental Department, San Francisco, Cal.

Cincinnati College of Dental Surgery, Cincinnati, Ohio.

Texas Dental College, Houston, Texas.

MINIMUM ENTRANCE REQUIREMENTS FOR CLASS A AND CLASS B DENTAL SCHOOLS

Collegiate predental education is a requisite for entrance to all Class A and Class B dental schools in the United States. Some dental schools function on a basis of one year of collegiate predental education; many others require two years of such education and training. Certain dental schools admit students deficient in not more than six semester hours in the required courses; many others, however, do not allow conditions upon entrance.

Prospective students of dentistry should have authentic information pertaining to the predental standard. Such students now enrolled in academic colleges should communicate promptly with the authorities of the dental school which they wish to enter.

* Report pending.

Holmes C. Jackson, Ph.D.

DEAN OF NEW YORK UNIVERSITY COLLEGE OF DENTISTRY

Holmes C. Jackson, Dean of the New York University College of Dentistry, died on October 25, 1927, in New York after an illness of many months.

Dean Jackson was born in New York on February 18, 1875, the son of William Holmes and Jane E. Freeman Jackson. He received a Ph.B. degree from the Sheffield Scientific School (Yale) in 1896; the following three years were spent in the same school, from which he received a Ph.D. degree in 1899. Two years of study in Germany ensued.

His connection with New York University began in September, 1901, when he became instructor in the University and Bellevue Hospital Medical College.

From 1905 to 1909 he was with the Albany Medical College, working in the field of experimental physiology and as director of their laboratories.

Again, in 1909, he returned to the New York University and Bellevue Hospital Medical College as professor of physiology and later became assistant dean there.

When New York University took over the New York College of Dentistry and reorganized the entire school into the New York University Dental College in 1925, Dean Jackson was selected for its first dean. This is probably the first time in history that a dean of a college of dentistry has not been of that profession.

In a report issued by the Carnegie Foundation for the Advancement of Teaching last year, Dr. Jackson's work in connection with the Dental College with which he was associated at the time of his death was highly commended. Dr. Jackson's aim in dental education was to bring about a combination between the dental and medical branches for more extensive research.

Dean Jackson was a member of Theta Delta Chi, Nu Sigma Nu, Sigma Xi, American Physiological Society, American Society of Naturalists, Society of Experimental Biology and Medicine, Society of Biological Chemists, a fellow of the Howey Society of New York, and A.A.A.S.

He was also a frequent contributor to medical and physiological journals and author of a *Manual of Physiological Chemistry*, and *Laboratory Exercises in Physiology*.

Frank T. Van Woert, M.D.S.

PROFESSOR OF DENTISTRY, MEMBER OF THE ADMINISTRATIVE BOARD
AND FORMERLY DIRECTOR OF THE SCHOOL OF DENTAL AND
ORAL SURGERY, COLUMBIA UNIVERSITY, NEW YORK, N. Y.
DIED SEPTEMBER 1, 1927

The Faculty of the School of Dental and Oral Surgery of Columbia University records with deep sorrow the passing from this life of its former leader, Dr. Frank T. Van Woert.

The story of his life and achievements may well stimulate the ambition of all youthful members of our profession. Winning a professional education over handicaps insurmountable to natures less determined, he progressed to leadership in private practice and as an adviser and clinician among his confrères.

To many a youth he was a professional father, and to those leaders of the past decades who molded professional thought and practice he was a chosen comrade to whose counsel respectful hearing was always accorded.

His sterling personal integrity, his never failing courtesy, his valiant courage and determination in right thinking and fair dealing, and his constant effort to advance the standards of dental practice made his early selection to the leadership of the Columbia effort in dental education a logical one.

In this field his notable genius for executive detail found full scope during trying developmental years, and we accord to his memory unsparing praise for effort given without stint and for success of a high order in solving the problems of a transition period in this School.

We sadly place upon record our deep sense of loss in the death of a dear personal friend and of an honored leader who made notable contributions to professional development and progress during more than fifty years of active practice. By unanimous vote of this Faculty on October 20, 1927, this minute is entered upon our records, transmitted to the members of his family, and published in the leading dental journals.

HAROLD J. LEONARD, *Secretary of the Faculty,*
School of Dental and Oral Surgery,
Columbia University, New York, N. Y.

DENTAL ECONOMICS

The Business Side of Dentistry

By M. A. Munblatt, D.D.S., Brooklyn, N. Y.

The recent discussions in the various dental journals on the much abused topic of the business side of dentistry prompt the writer to cast his opinions in the pool for consideration and comment. To analyze this problem properly, we must consider it from three important angles: (1) That of the general practitioner who has a considerable amount of experience behind him; (2) That of the dental specialist; (3) that of the recent graduate. With this clear division we can come to some definite conclusions.

One of the greatest difficulties of the general practitioner today is to get proper appreciation and remuneration from his patients for the services he performs. The dentist spends his time and money to perfect himself in the various branches of the profession, but finds himself hampered by a lack of understanding on the part of the public of the difficulties of his work, and in many instances he is forced to enter into the so-called atmosphere of the *specialist* in order to command the fee to which he is rightfully entitled. Of course, we must realize that the specialty he chooses sometimes does not represent his inherent inclinations, but rather a choice in many instances on purely an economic basis, and oftentimes he meets with chagrin and failure.

In considering the second phase of the question it is appropriate to mention the fact that today we are confronted with a peculiar type of fly-by-night specialists—some young graduates who think that the only requisite for a specialist is a two- or three-weeks' course with some private instructor, a beautifully equipped office in a prominent building, a pretty nurse, and a neatly engraved card announcing the hilarious event that the sender is well equipped scientifically and otherwise to practice his "specialty" for the benefit of humanity. It may be true that some of these individuals show an inherent inclination toward the particular specialty they have chosen, but when we consider the six important factors with which any branch of the healing art is confronted, namely, diagnosis, etiology, prognosis, treatment or *modus operandi*, prevention, and hygiene or care, we then realize the lack of ability of

these young men and the detriment they become to the profession and the public. The economic problem of this group we can pass over with little concern.

However, the financial difficulties of that individual who is, truthfully speaking, equipped by study, training and experience to practice his specialty for purely scientific reasons are problems that sincerely deserve consideration. The competition with which he is met, the lack of ability on the part of many general practitioners to perform the very simple types of work or operation, and the lack of appreciation on the part of the patient as well as the general practitioner as to the difficulty of certain operations compel the specialist to be kept so very busy in order to meet the demands and receive the proper income commensurate with the training he has acquired and the work he performs as to hinder him considerably. These conditions work a detriment to the profession and the individual concerned.

Now, let us consider the problem of the recent graduate, who, we must admit, is of late receiving a better theoretical training than the older men in the profession have received in the past. The dentist graduating today is imbued with the idea that his knowledge on dental matters far surpasses the men now in practice and, without realizing that a considerable amount of experience is necessary to enable him to practice his profession satisfactorily, he enters his newly equipped office, after a little training that he sometimes obtains in the employ of an older practitioner, with the idea that his services are worthy of the fees his seniors in the profession are getting. He finds himself met with many sad experiences until he finally realizes that it is not so easy to build a sound, paying practice. Not until that same young man reaches the stage where he appreciates the fact that he is still lacking in practical experience, which he must obtain by keeping himself busy at nominal fees, does he come to a solution of his economic problems. He further must realize that it is necessary for him to keep abreast with the new developments in his profession by attending society meetings, clinics and study clubs.

To sum up, then, we can come to these definite conclusions in the solution of our economic problems:

- (1) Make the practice of general dentistry so economically sound by affording facilities for the education and training of the general practitioner as not to force him into a specialty for any other reason than that of a purely scientific basis.

- (2) Educate the public to a proper appreciation of scientific dentistry as it is understood today.

181 34th Street.

PRACTICAL HINTS

This Department is now being conducted from the office of The Dental Digest. To avoid unnecessary delay, Hints, Questions and Answers should be addressed to Editor Practical Hints, The Dental Digest, 220 West 42d Street, New York, N. Y.

NOTE—Mention of proprietary articles by name in the text pages of THE DENTAL DIGEST is contrary to the policy of the magazine. Contributions containing names of proprietary articles will be altered in accordance with this rule.

Editor, Practical Hints:

Please give me your opinion as to the advisability of crowning temporary cuspids, in the mouth of a woman about 35, where the radiograph shows that the roots have never been even slightly absorbed, and that no permanent teeth are anywhere in sight. As one could hardly remove the pulps from these teeth, I presume porcelain jackets would be the only reasonable restoration, but the question is whether one would be justified in putting the patient to the expense. Of course extraction would necessitate the mutilation of sound adjoining teeth for abutments, with possible complications.

Would it be possible to guess the future life of these teeth, all surrounding tissues being normal?

W. A. K.

ANSWER.—It is perfectly good practice to place jacket crowns upon deciduous teeth with unabsorbed roots, supported in normal alveolus, such as you describe. They should last quite indefinitely, just as long, in fact, as permanent roots equal in size and bony support.—V. C. SMEDLEY.

Editor, Practical Hints:

A little girl, about six years of age, has been under my care for several years. After an exceptionally long absence she presented with all four first molars erupting and the lower centrals fully erupted. The molars have very little enamel covering the erupted portion, and the centrals have a pitted line in the middle third of the crowns. She

is in excellent health and has never had any childhood diseases usually associated with this condition. I am at a loss to account for it. She is fond of fruit and vegetables and eats them regularly.

Do you think this condition is caused by faulty diet of the mother, and what would you suggest as a remedy?

C. L. P.

ANSWER.—It is generally believed that any fault in the formation of enamel is due either to inherited tendency or to an interference in the metabolism of the child during the period in which the enamel is being formed, but, be that as it may, your present problem is how to meet the condition as you find it.

It seems to me that this is a case where meticulous home care and frequent polishing at your hand are indicated, with the hope of preventing decay in these areas in which the dentin is exposed. If decay occurs, it can be handled as indicated by the position and the tooth, in the hope of preserving the pulps vital and healthy until it is safe to use porcelain jacket crowns, and it seems to me that porcelain jacket crowns would be indicated finally, not only for the incisors but for the first molars as well. As a part of the prophylactic treatment the child's diet should be continued as you indicate, i. e., plenty of unpasteurized milk, fresh fruits, green vegetables, and whole grain products.—G. R. WARNER.

Editor, Practical Hints:

I should like to ask your opinion as to the cause and remedy, if any, of the upper jaw becoming soft and flabby under a denture, confined mostly to the ridge in front. Four years ago I made the patient a rubber plate, under which the trouble started, and last year I made her an A-1 felt-lined denture, under which the absorption still goes on.

The plate stays up well and the patient is much pleased in every other way.

Any light on the subject would be appreciated.

L. G. D.

ANSWER.—In most cases rapid absorption of the process, confined to the ridge in front on an upper, is due to the pounding effect from the natural anterior teeth on the lower jaw with the posterior teeth missing, or with a partial plate carrying the lower posterior teeth which has been allowed to settle out of proper occlusal function. In some cases this excessive absorption may be due to residual areas or irritation from a thin, serrated or spicular surface of the process in this area. If either of the latter causes prevails, of course an operative procedure is indicated.

With all other conditions as they should be, it is fair to expect less absorption under a metal base than under a vulcanite in the majority of cases.—V. C. SMEDLEY.

Editor, Practical Hints:

I have a patient who is troubled with a small tumor or transparent blister on the floor of the mouth under the tongue, which swells as large as a good-sized pea, breaks in a few days, then in about two weeks (sometimes less) appears again. There is practically no pain, and but very little soreness. This tumor has been going and coming for about six months. The teeth, both upper and lower, are in good shape.

I should appreciate any advice as to its cause and the necessary treatment.

E. P. L.

ANSWER.—My impression would be that your patient, in all probability, is suffering from the stoppage or partial stoppage of the sublingual salivary duct.—V. C. SMEDLEY.

Editor, Practical Hints:

Do you think that the advice given as to curing pyorrhea by grinding the occlusal surfaces is sound and proper? Has it been demonstrated that malocclusion is the cause of pyorrhea?

What about scaling the roots, one or two millimeters below the gingival surface, followed by polishing with files? Is this practice necessary to cure pyorrhea, and is it safe?

J. L.

ANSWER.—Traumatic occlusion is only one of the causes of pyorrhea, and the correction of this occlusion is only one of the steps in its treatment. Scaling the roots to the full depth of the pockets, polishing these roots, and instructing the patient thoroughly in home care make up the right method of treatment. If this treatment is carried out skillfully in cases where the destruction has not involved more than one-half of the length of the root, the chances for success are very good.—G. R. WARNER.

Editor, Practical Hints:

A patient of mine, about 40 years old, was in the other day. She says she has a "peppery" feeling in her lips and tongue. She does not have it all the time, but it comes on in the afternoon mostly.

After she has slept awhile it seems to go away. At times it appears in the middle of the forenoon.

She has an upper left four-tooth bridge from cuspid to molar, which is loose and shows dark areas; also an upper right two-tooth bridge, which also is loose and suspicious. She has been under the care of a doctor for three or four months.

Her stomach was too low and she used to have a "peppery" feeling in her esophagus. The doctor treated her for nervous indigestion and told her to rest more. Now he thinks it may be her teeth. I shall appreciate your advice.

W. R. M.

ANSWER.—I should say that this peppery feeling in your patient's lips and tongue might be caused by oral infection, traumatism or systemic infection. Certainly the mouth ought to be cleared up, so that you can assure her that it is not coming from this source.
—G. R. WARNER.

Editor, Practical Hints:

One of my patients has a continuous dull pain in the upper jaw in the molar region. It is of a throbbing nature, and she has no cavities nor dead teeth as shown by the x-ray, nor abscesses. She complains of a ringing sensation in the right side of her head.

The lower jaw has a heavy feeling all the time. She has a little gum trouble, but this can be easily cured. She has no bridgework in either jaw.

Any assistance on this case will be very much appreciated.

J. G. B.

ANSWER.—The symptoms you describe are sometimes a result of sinus infection. I suggest that you send your patient to a good nose and throat specialist.

A good x-ray plate through the head will usually show very plainly whether the sinuses are clear and normal or congested with infection.

—V. C. SMEDLEY.



DENTAL SECRETARIES and ASSISTANTS

Secretaries' Questionnaire

All questions and communications should be addressed to Elsie Pierce, care of The Dental Digest, 220 West 42nd Street, New York City.

NOTE—HAVE YOU A BETTER WAY? HAVE YOU A TIME-SAVING SHORT CUT? DO YOU KNOW A "STUNT" THAT LIGHTENS THE WORK OR MAKES FOR EFFICIENCY IN THE OFFICE? IF SO, WRITE TO ELSIE PIERCE, CARE THE DENTAL DIGEST, 220 WEST 42ND ST., NEW YORK. YOU MAY HELP A NUMBER OF GIRLS WHO ARE JUST BEGINNERS—AND YOU KNOW HOW YOU NEEDED HELP DURING YOUR FIRST FEW MONTHS IN A DENTAL OFFICE. OR IF YOU NEED HELP NOW WRITE TO ELSIE PIERCE—SHE'LL HELP YOU.

Dear Miss Pierce:

I have found a way to remove compound from impression trays in a very few moments, as follows:

Place trays in a jar and cover with gasoline, sealing jar with rubber and screw top to prevent evaporation.

I am wondering if you could tell me where I could get a cap to wear with my uniform. I have watched the advertisements that come into the office about uniforms, but have been unable to secure anything. Possibly some other assistant reading this would be able to suggest something for me.

M. M. M., Pa.

ANSWER.—We appreciate the suggestion for removing compound from trays, which will no doubt be of service to our readers.

Regarding a cap, all large department stores carry uniforms and caps of various styles and materials. We suggest that our reader select a style that is neat and serviceable, one that can be laundered satisfactorily, preferably one that can be opened out flat for that purpose. There is a style called the regulation Red Cross cap which seems to be very satisfactory. In selecting a cap one should remember that there is a very definite reason for wearing a cap, aside from that of a professional appearance. A cap should protect the hair and help main-

tain a neat, well-groomed appearance of the coiffure. To wear a cap perched atop a frowzy head of hair does not impress any one with the dignity or efficiency of the wearer, and, alas, we have seen such a picture!

V. W., Nebraska, also removes compound from trays with gasoline. She does it this way:

"Have a large-mouthed, ground-stoppered glass jar half full of gasoline; place trays therein for half an hour, then brush off. The same gasoline can be used for weeks. Cheap, effective, and leaves them bright. A lighted match at the finish leaves them sterile, though perhaps not so bright. We sometimes leave ours overnight, for after all what is time to a tray?"

Thanks for this suggestion, V. W.

May we suggest that the lighted match be applied to the trays away from the gasoline jar. Gasoline is highly inflammable and should never be used near an open flame.

Dear Miss Pierce:

I have worked two weeks for a dentist and I find it is very interesting, but complicated in some ways. I have a few questions to ask and I hope you can help me by answering them.

I find it very hard to remember the right place for each instrument. What way would you suggest to remember where each instrument should be placed in the instrument cabinet? What is the best way to overcome nervousness when I have to help the doctor? When the doctor is in the laboratory for a few minutes and a patient is seated in the chair, what is a good way to start a conversation? What is the correct way to ask the doctor to repeat what he has said? What is a good way to get a salesman to leave if the doctor does not care to see him?

M. T., Ind.

ANSWER.—First, may I say that a young woman entering the field of dentistry as an assistant could hardly expect to have learned anything but the very superficial details of the duties expected of her in two weeks' time, especially if she is associated in a busy practice, her employer most likely not having the time to teach her the fundamentals of her service, so I do not wonder she finds things "complicated in some ways."

Regarding the right place for each instrument—first, the names of the various instruments used in the office must be learned. (See Answer to "T. D.", in the November *Questionnaire*.) Every dentist

has his particular pet instruments for each given operation, so familiarize yourself with the ones your employer uses. No doubt he has several sets of each type. In the cabinet they should be placed in sets, their location depending entirely upon the preference of your employer. Each dentist arranges instruments in his cabinet entirely to suit his needs. Once you have learned the names and types of the instruments, it will be easy for you to place all those of a kind together, remembering that there are usually rights and lefts of each kind.

Regarding nervousness when helping the doctor—try to concentrate on what the doctor is doing, and what you can do to help him and the patient. Keep your mind on the work at hand; do not think about yourself. Do the best you can at the moment. Your employer knows you are not an expert, and the patient knows you are new in the office, so there is no reason to get nervous. Even if you do make a mistake, do not dwell on it, but on the lesson you have learned through it as how to avoid a repetition of the same error in the future. Self-consciousness is what makes people nervous. Forget yourself!

Regarding conversations with patients—a dental assistant should always remember that her service is professional, and that conversations are rarely necessary beyond matters of professional interest and service. Neither the doctor nor the patients are pleased with idle chatter. There is a way to be pleasant and courteous without being talkative. It is always a safe plan to allow the patient to take the initiative in matters of conversation. If the doctor is to be in the laboratory for any length of time, the patient can be given a newspaper or a magazine to peruse.

Regarding asking the doctor to repeat instructions, etc.—the same tact is required that is necessary if you ask any one else to repeat something. The urgency of the request should determine your position in the matter. If possible, wait until the patient has left the room before asking a repetition. Repetitions may be largely avoided if you heed the advice given for nervousness, as it is all a matter of concentrating on the work at hand.

Regarding the salesman—pleasantly say, "Dr. Blank is busy and asks to be excused," or "Will you not leave your card? I will call it to the Doctor's attention at his leisure. If he is interested we will let you know," or "Will you not call again some other time? Doctor Blank might be able to see you then." Again, this is a matter of tact and judgment for which there can be no set formula. Salesmen as a rule are very amenable to a dignified, businesslike reception and treatment.

Dear Miss Pierce:

Commenting on the letter signed X. Y. Z. in the September issue

of THE DENTAL DIGEST, it is difficult to imagine how a self-respecting man could ask a girl to work for \$12.00 a week. I bet the dentist in question is a good church member and belongs to every benevolent order to which he is eligible in his town; charges more for an inlay than he pays his assistant for a week's work.

I can't take six weeks' vacation. I am glad if I can get two, but I pay my assistant more than twice that much, nearly three times as much, and she is worth every cent of it.

I wonder why we have trade unions and socialists!

"Live and let live,"

O. P. J.

Dear Miss Pierce:

The letter of X. Y. Z. in the September DIGEST ought to bring a great many comments. Here are mine anyway.

Without any preliminaries in the way of opinion of a supposedly reputable dentist who probably passes for a human being or of the real abilities of X. Y. Z., there is something wrong in her case.

I know a fifteen-year-old half-wit, really a pitiable case, who is employed by a hard-headed business man to run only such errands as he can be trusted with, who was at first paid \$5.00 a week and whose wages this business man has recently raised to \$7.00 without being in any way asked to do so. The parents of the boy and he himself were so glad he had any kind of employment that they never thought of his being worth any more.

Surely X. Y. Z. is worth that for running errands around the office of this prince of dentists.

Thirty years ago my preceptor wanted a girl to seat patients in the chair, mix cement, care for instruments, and in similar ways assist at the chair—nothing else. He had to pay her \$5.00 a week then. Surely X. Y. Z. is worth no less if she does it now.

I can, though I should be ashamed to do it, hire a girl to, to a fair extent, keep my books, etc., and nothing else, for ten or twelve dollars a week to *start* with, with a certainty that I should have to pay more as soon as she became at all proficient. Surely if X. Y. Z. does this for her regal employer, she is worth that.

If I want a boy to stay in the laboratory, whether he knows anything about prosthetic work or not, I have to pay him at least a dollar a day with a promise of more as soon as he learns anything about what to do. Surely if X. Y. Z. can set up teeth, such service is worth something.

These few items total \$24.00 a week and do not apparently cover pay for all the services X. Y. Z. enumerates.

She would better tell her employer that she wants \$20.00 a week for fifty weeks a year, two weeks' vacation with pay and more pay later or get through.

In my opinion she will get what she asks, but if by any good fortune the dentist should have heart failure because of the shock, it would do no harm.

C. E. C.

Third Annual Meeting

AMERICAN DENTAL ASSISTANTS ASSOCIATION

OCTOBER 25-27, 1927, DETROIT, MICH.

The third annual meeting of the American Dental Assistants Association, Juliette A. Southard, President, was held at Detroit, Mich., October 25-27, 1927, general headquarters being at the Hotel Savoy.

Twenty societies for dental assistants are enrolled as constituents, located in the following states: Alabama, Georgia, Illinois, Indiana, Louisiana, Maryland, Minnesota, Mississippi, Nebraska, New York, Ohio, Oklahoma, Pennsylvania, Tennessee. Their delegates comprise the administrative body or House of Delegates, and three sessions of this body were held, one general meeting of the Association, an afternoon devoted to clinics, and the annual luncheon. All the sessions were well attended, several hundred dental assistants taking part. There were also representatives from the Canadian associations of Toronto and Montreal.

Speakers from the dental profession who addressed the meeting were C. N. Johnson, Editor, Journal of the American Dental Association; P. J. O'Reilly, President, Detroit Dental Society; Boyd S. Gardner, Chief, Dental Surgery Department, Mayo Clinic; R. D. Thornton, Dean, Dental School, Medical College of Virginia; H. L. Wheeler, Vice-President, International Dental Federation; G. F. McLain, of North Dakota; Wallace Secombe, Dean, Dental Faculty, University of Toronto; F. G. Conklin, President, Chicago Dental Society. The guests of honor at the annual luncheon were Dr. H. L. Banzhaf and officers of the American Dental Association; Dr. W. A. Giffen, Detroit; Dr. C. Edmund Kells, New Orleans; Dr. Henry Fowler, New York; Dr. George West, Chicago; and the speakers who had addressed the various sessions.

Demonstration clinics were held covering the following subjects: Chair Assistance, Sterilization, Laboratory Assistance, X-Ray Assist-

ance, Secretarial Assistance, Helpful Hints for Service, First Aid, Economy Suggestions for Service, Inlay Investment, Library Exhibit, and an illustrated exhibit on *Dentistry, Yesterday and Today*.

The House of Delegates by unanimous vote reaffirmed the desire of the members of the Association for the establishment of schools in the dental colleges and universities for the training of dental assistants and ratified a recommendation of the Board of Trustees that "the American Dental Assistants Association does not endorse commercial trade schools for the training of dental assistants." A resolution presented by the Board of Trustees to the House of Delegates was unanimously adopted, placing the American Dental Assistants Association on record as to the following:

Whereas: It has come to the attention of the Board of Trustees of the American Dental Assistants Association that accusation has been made that the organization of the American Dental Assistants Association was only a preliminary step toward the labor-unionizing of dental assistants and the ultimate control of salaries and hours of labor; and

Whereas: This same accusation has been made against the local and state dental assistants societies that comprise its constituent membership; therefore be it

Resolved: That the American Dental Assistants Association in convention assembled, at Detroit, October 26, 1927, go on record as to the following:

First: That there is not a word of truth in the foregoing accusation.

Second: That the American Dental Assistants Association is a professional organization of women employed in a particular field of human service, the practice of dentistry.

Third: That the Association is endeavoring to carry on educational work among its members, for the purpose of aiding its members to render better service to the dental profession.

Fourth: That it is trying to provide training for its members that will prepare them for any emergency arising in this service.

Fifth: That its sole object is to aid its members in every way possible, to assist the dentist in rendering the highest possible service to humanity: Be it further

Resolved: That the foregoing be made not only a part of the records of this meeting and of the American Dental Assistants Association, but that a copy be sent to each dental magazine for publication, and to any other person or persons as may be deemed advisable.

A report to which this resolution was appended was presented to the House of Delegates of the American Dental Association on October 26, 1927.

The various topics presented by members of the Association in the form of essays were as follows: *Dental Sterilization; Legislation, Its Advantages to the Dental Assistant; Why the Dental Nurse? Cooperation and Success in a Dental Office; High Lights of Parliamentary Procedure for the Dental Assistant; Intelligent Service, the Goal of the Dental Assistant; Tact in the Dental Office; Pulling Together.*

The officers elected for the ensuing year were: President, Juliette A. Southard, 174 West 96th St., New York; 1st Vice-President, Blodwen M. Williams, 528 West First St., Oil City, Pa.; 2nd Vice-President, Grace B. Renshaw, 1004 Neave Bldg., Cincinnati; 3rd Vice-President, Mildred D. Thompson, 1002 General Bldg., Knoxville, Tenn.; General Secretary, Ruth F. Rogers, 16 North Wabash Ave., Chicago; Treasurer, Angie Ryan, 25 East Washington St., Chicago.

Preparations are already under way for the next convention to be held at Minneapolis, Minn., August, 1928. As a result of this year's meeting a society is being organized in Detroit, and a number of dental assistants residing in localities where there are as yet no societies were elected to membership.

The 1927 meeting was voted the largest and best ever held. In the opinion of the members of the dental profession who attended, the American Dental Assistants Association is paving the way for finer service and a better understanding of the value of the dental assistant and is deserving of the whole-hearted support of the dental profession in its efforts to raise its standards of service for the betterment of humanity.

Educational and Efficiency Society for Dental Assistants, First District, New York

The Educational and Efficiency Society for Dental Assistants, New York, has resumed the conduct of classes as usual and plans this year to follow as closely as possible a program based on the curriculum adopted by those recognized dental schools which have installed departments for the training of the dental assistant. These classes are free to members of the Society. Sessions are held one evening each week under the direction of competent members of the professions. Dr. A. A. Brill, the noted psycho-analyst, gave a very interesting and instructive lecture on practical psychology on November 10. On November 17 a class in x-ray assistance held its first session, with Dr. A. L. Greenfield instructor. During December a class on the fundamentals of bacteriology will be held. Groups are being organized also for instruction in bookkeeping, office management, sterilization, laboratory assistance, speaking and parliamentary procedure.

A regular meeting of the Clinic Club was held at the office of Dr. R. H. Reese, 143 Clinton Street, Brooklyn, on October 31, when a demonstration on instrument-sharpening was presented by one of the members.

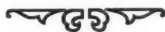
The Clinic Club meets regularly on the third Monday evening of each month, and membership is open to all members of the Educational and Efficiency Society for Dental Assistants, New York. The next meeting will take place on Monday, December 19, at 7:30 p. m., at the office of Dr. Eolis, Times Building, New York. A lecture and table clinic on x-ray assistance will be presented.

A regular meeting of the Educational and Efficiency Society for Dental Assistants, First District, New York, will take place at the Academy of Medicine, 2 East 103rd Street, New York, on Tuesday, December 13, at 8 p. m. Dr. LeRoy S. Edwards, President of the Second District Dental Society, will speak on his recent trip to Alaska. Miss Clara Taylor, Instructor of Nutrition, Teachers College, Columbia University, will present a short address on diet and nutrition. A cordial welcome is extended to the members of the dental profession and to their assistants.

Montreal Dental Assistants Association

At the first meeting of the season of the Montreal Dental Assistants Association on October 13, 1927, Dr. George S. Cameron, Professor of Prosthetic Dentistry at McGill University, and Dr. Eudore Dubeau, Dean of the School of Dental Surgery, University of Montreal, gave interesting addresses and congratulated the society upon having had a most successful first year of existence.

The election of officers resulted as follows: President, Ruth Firth; Vice-Presidents, E. A. McKee and J. Desjardins; English Secy., E. Voisey; French Secy., E. Gobeil; Recording Secy., E. Moye; Treasurer, M. MacLean.





A BOOK MAY BE AS GREAT A THING AS A BATTLE—DISRAELI

Special Dental Pathology, A Treatise for Students and for Practitioners of Dentistry and Medicine, by Julio Endelman, M.S., D.D.S., F.A.C.D., Professor of Special Dental Pathology and Therapeutics, College of Dentistry, University of Southern California, Los Angeles, California.

When a scientific book appears as a second edition, it can mean only one thing, and that is that it fills a certain need. Perhaps no better example can be found than this volume on dental pathology, in the preface of which the author stresses the importance of the non-bacterial causes of disease and states that the predisposing cause of disease of the teeth and associated structures may be found in an impairment of the circulatory activity.

The normal histology of the enamel, dentin and cementum is first taken up, followed by a short study of the development of the teeth.

The chapters on dental caries are well worth reading, as the author considers the subject with an unbiased mind. Some men would have us believe that diet and diet alone is the determining factor in the prevalence of caries. Dr. Endelman is quite willing to admit that it, with many other conditions, is a contributing factor, but that the real cause of caries is the one given in the classical work of Dr. Miller. The author states positively that enamel and dentin have no power of repair, and he gives as the definition of caries that it is a molecular disintegration of the hard tissues of the tooth by chemico-bacterial agencies, always beginning upon the exposed surface of the tooth. The reviewer can only add his unqualified endorsement of these statements.

The section devoted to pyorrhea also is worthy of careful study. The author admits that certain cases may be due to retrograde changes of a nutritional order, but claims that the etiology of the majority of cases is the direct involvement of the gingival tissues. Systemic conditions, however, play an important part in the lowering of resistance.

The saneness and lack of theorizing in this book make it a most welcome one, especially so since it not only gives the pathologic anatomy but also describes the altered function that results—the pathologic physiology. The publishers are to be congratulated not only for the

presentation of such a valuable contribution to dental literature, but also on the mechanical details of the volume. The illustrations and presswork are especially good.

433 pp., with 371 illustrations and index. St. Louis: The C. V. Mosby Company, 1927.—A. M. J.

The Teeth and the Mouth, by Leroy L. Hartman, D.D.S., Professor of Operative Dentistry, School of Dental and Oral Surgery, Columbia University, New York, N. Y.

This little book is the second of its kind that has come to the reviewer's attention in the past few months. This is most encouraging, for it shows not only that the profession realizes that the public must be educated along dental lines, but also that something definite is being done about it.

The treatise is divided into four parts—the childhood period, from childhood to adult life, the adult period, and miscellaneous. While of necessity the various subjects are only touched on, yet the book will be found of great value by the laity and we trust that it will have a wide circulation.

87 pp. and index. New York: D. Appleton & Co., 1927.—A. M. J.

Diseases of the Mouth, by Sterling V. Mead, D.D.S., Professor of Oral Surgery and Diseases of the Mouth, Georgetown Dental School; Professor of Diseases of the Mouth, Georgetown Medical School; Oral Surgeon to Georgetown Hospital; Dental Surgeon to Providence Hospital; Consulting Oral Surgeon to Casualty Hospital, Consulting Dental and Oral Surgeon to Shady Rest Sanitarium, etc., Washington, D. C.

This volume will be of more interest to the oral surgeon than to the general practitioner, since the greater part of the book is given over to infectious diseases, tumors, cysts, stomatitis, etc. In this respect it will be found of great value because the symptoms, prognosis and treatment are clearly indicated and the plates and photomicrographs are unusually good, illustrating and amplifying the points brought out in the text.

The author has taken a great deal of pains in the preparation of this work and is to be congratulated on the clearness and thoroughness of his presentation. It will be especially useful as a book of reference for the dentist and the physician.

559 pp., with 274 original illustrations, 29 color plates, and index. St. Louis, Mo.: The C. V. Mosby Company, 1927.—A. M. J.



EXTRACTIONS



No Literature can have a long continuance if not diversified with humor—ADDISON

The man who saves money nowadays isn't a miser; he's a wizard.

King George, of England, sold out an entire booth of flowers at a recent charity fair. The fair was in Scotland. We'd call that some salesmanship!

(Mrs. Billtops)—The acoustics of this hall are just terrible!

(The Janitor)—Not at all, lady. It's the chemistry building next door that you smell.

NEEDLESS WEAR AND TEAR

Sandy MacPherson, after being shown to his room in a hotel, looked from the window and noticed a large illuminated clock in a tower across the street. He stopped his watch.

Girls when they went out to swim,
Once dressed like Mother Hubbard;
Now they have a bolder whim:
They dress more like her cupboard.

Another way to keep cookies and doughnuts safe from juvenile hands is to lock them in the pantry and hide the key under the soap on the washstand.

SIZING UP OUR ART

It is reported from America that an actor played Hamlet in horn-rimmed spectacles. Owing to the many long speeches he didn't get much chance to chew gum.

(Wife)—Where do you think our child has got all his sense from?

(Husband)—From you, of course!

(Wife)—Good gracious, you don't mean to say you agree with me for once?

(Husband)—Yes. . . I have still got all my sense.

"Vot I dells mine vife goes."

"Yaw?"

"Sure; she dakes it to her mudder right away, und quivck as nefer vos, like dot radio, id is eferwhere!"

The National City Bank of New York recently published its assets as \$1,460,814,797.96. Now, if the Bank could only borrow four more pennies from somebody it would have another dollar.

DOMESTICITY IN CHICAGO

(Mother)—It is whispered that you and John are not getting on well.

(Wife)—Nonsense! We did have some words and I shot him, but that's as far as our quarrel ever went.

(Patron)—Bring me a bottle of ginger ale and some cracked ice.

(Waiter)—What do you intend doing with them, sir?

(Patron)—I want the ginger ale for a girl friend in China and the cracked ice I am going to send home to my grandmother as a keepsake.

(Waiter)—Very good, sir. I thought for a second you might be one of those awful drinking persons.

One winter night, when the ground was covered with sleet, and the rain was freezing as it fell, the old doctor received a very late call from a family living out on the other side of the city. It was after one o'clock when he left home, and his horse—this was in the old days—slid all the way to the patient's house.

He got there about three o'clock, and found that a girl in the household had a severe cold. It was nothing dangerous.

"How long has she had it?" asked the doctor.

"Three days," answered the mother.

"Why didn't you call me in the daytime?" asked the doctor.

"We are poor people, and we aren't able to pay very much, so we thought we would call you when you weren't busy."

SOME PRIZE AD WRITERS

Excellent course in voice culture by Prof. Fletcher, not soiled; cost \$100; sell for \$50, or exchange for small pigs or what have you?

—Ad in *Seattle Daily Times*.

* * *

Bird cage and parrot offered by refined young lady having green feathers and yellow beak.

—Ad in *Salt Lake Tribune*.

* * *

Speaking of Comfort: The first floor will seat 600 persons; then there is a double gallery that will seat an additional number of people with upholstered seats.

—*The Macon Telegraph*.

FUTURE EVENTS

THE DENTAL PROTECTIVE ASSOCIATION OF THE UNITED STATES will hold its annual meeting at the Palmer House, State and Monroe Streets, Chicago, on Monday, December 19, 1927, at 4 p. m. The report of the officers will be given, a Board of Directors will be elected, and such other business transactions as should come before the Association will be taken up.

All members are urgently requested to be present.

J. G. REID, *President*,

D. M. GALLIE, *Vice-President and Treasurer*,

E. W. ELLIOT, *Secretary*.

THE WESTCHESTER DENTAL SOCIETY will hold its third scientific session on Tuesday, December 20, 1927, at 8:30 p. m., at the Yonkers Chamber of Commerce, 35 South Broadway, Yonkers, N. Y.

The essayist will be Dr. Leo Winter of the College of Dentistry, New York University. His subject will be *Extraction Technique for the General Practitioner*.

The session is open to all who care to take advantage of the program.

THE MONTANA STATE BOARD OF DENTAL EXAMINERS will hold its next meeting at Helena, Mont., January 9-13, 1928. For further information, address

T. P. REGAN, *Secretary*,

Helena, Montana.

THE RHODE ISLAND STATE DENTAL SOCIETY will hold its Semi-Centennial (annual) Meeting in the Providence Biltmore Hotel, January 11-13, 1928.

The next meeting of the DELAWARE BOARD OF DENTAL EXAMINERS will be held in the Municipal Building, Tenth and King Streets, Wilmington, January 18-19, 1928, 9 a. m. to 5 p. m.

For further information, address

W. S. P. COMBS, *Secretary*,

Middletown, Delaware.

THE CHICAGO DENTAL SOCIETY will hold its Annual Midwinter Meeting and Clinic at the Drake Hotel, Chicago, January 24-26, 1928. Dr. Arthur D. Black is chairman of the Program Committee.

All members of the American Dental Association are cordially invited to attend this meeting.

THE CONNECTICUT STATE DENTAL ASSOCIATION will hold its sixty-fourth annual meeting in New Haven, Conn., April 11-13, 1928.

THE NEW JERSEY STATE DENTAL SOCIETY will hold its fifty-eighth annual meeting at the Berkeley-Carteret Hotel, Asbury Park, N. J., April 18-20, 1928.

F. K. HEAZELTON, *Secretary*,
223 East Hanover St., Trenton, N. J.

THE SOUTHERN SOCIETY OF ORTHODONTISTS will hold its annual meeting at Hotel Belvedere, Baltimore, Md., April 27-28, 1928. A cordial invitation is extended to all ethical members of the dental and allied professions.

OREN A. OLIVER, *Secretary-Treasurer*,
1101 Medical Arts Bldg., Nashville, Tenn.

THE AMERICAN SOCIETY OF ORTHODONTISTS will hold its next annual meeting at Hotel Statler, Buffalo, N. Y., April 30-May 3, 1928. Members in good standing in the American Dental Association are cordially invited to attend.

WALTER H. ELLIS, *President*,
CHARLES R. BAKER, *Sec'y-Treas.*,
708 Church Street, Evanston, Ill.

THE DENTAL SOCIETY OF THE STATE OF NEW YORK will hold its 60th annual meeting at Syracuse, N. Y., May 16-18, 1928.

A cordial invitation to attend is extended to all ethical dentists who are members of State Societies. The Society also bids all ethical Canadian dentists a very cordial welcome.

For information with reference to literary exercises, clinics, etc., apply to Dr. A. P. Burkhart, *Secretary*, 57 East Genesee Street, Auburn, N. Y.



CONTENTS

VOL. XXXIII DECEMBER, 1927

No. 12

CONTRIBUTED ARTICLES

	PAGE
A Clinical Contribution to the Pathology of the Oral Cavity, ARTHUR CHAIM	843
Conquering the Retreating Chin Complex . . . JOHN WALKER HARRINGTON	850
Special Teeth for Cross-Bite Cases . . . ALFRED GYSI, D.D.S.	858
Percy Howe's Letters ("Brother Bill") . . .	863
Oral Surgery in Practice . . . JAMES L. ZEMSKY, D.D.S.	866
Porcelain Manipulation . . . F. R. FELCHER, D.D.S.	870
The Toothbrush in Preventive and Curative Dentistry, SAMUEL CHARLES MILLER, D.D.S.	873
Some Significant Facts in Oral Focal Infection, . . . LEONARD N. RAY, D.D.S.	876
Vincent's Angina . . . LOUIS WACK, D.D.S.	879
Studies in the Etiology of Approximal and Gingival Caries, JOHN OPPIE MCCALL, A.B., D.D.S., F.A.A.P., F.A.C.D.	882
Acute Infections of the Jaws and Teeth . . . CHALMERS J. LYONS, D.D.S.	886
Partial Control of Failures and Variables in the Casting Process, HERMAN A. MAVES, D.D.S.	888
Togo's "Discussions" . . .	891
Classification of the Dental Schools of the United States . . .	894
Death of Holmes C. Jackson, Ph.D. . . .	896
Death of Frank T. Van Woert, M.D.S. . . .	897
DENTAL ECONOMICS . . .	898
PRACTICAL HINTS . . .	900
DENTAL SECRETARIES AND ASSISTANTS . . .	904
BOOKS RECEIVED . . .	912
EXTRACTIONS . . .	914
FUTURE EVENTS . . .	915

□ □ □ □

THE DENTAL DIGEST

GEORGE WOOD CLAPP, D.D.S., EDITOR

Published monthly, by THE DENTISTS' SUPPLY COMPANY OF NEW YORK, 220 West 42nd Street, New York, U. S. A., to whom all communications relative to subscriptions, advertising, etc., should be addressed.

Subscription price, including postage, \$1.00 per year to all parts of the United States, Philippines, Guam, Cuba, Porto Rico, Mexico, and Hawaiian Islands. To Canada, \$1.40. Great Britain and Continent, \$2.75. Australia, \$3.25. To all other Countries, \$1.75.

Articles intended for publication and correspondence regarding the same should be addressed EDITOR DENTAL DIGEST, Candler Bldg., Times Square, 220 West 42nd Street, New York, N. Y.

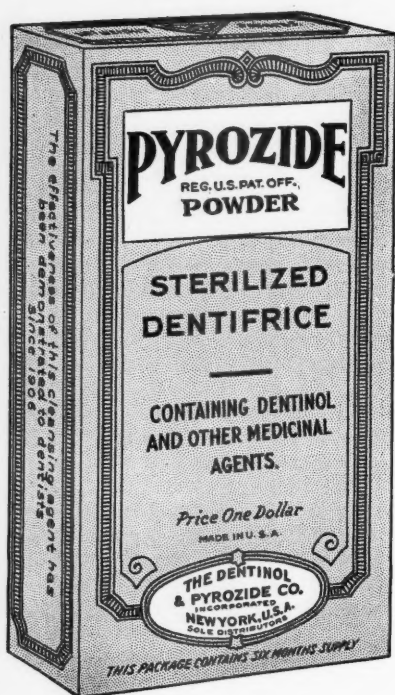
The editor and publishers are not responsible for the views of authors expressed in these pages.

Entered as Second Class Matter, at the Post-office at New York City, N. Y., January 29, 1909, under the Act of Congress, March 3, 1879.

OUR COVER THIS MONTH

OUR COVER PICTURE is a perfect winter scene that can be found in any section of our country where snow is the conventional dress of the cold months of the year. Although poets or other writers do not stay up nights raving over the beauties of winter weather, still the frigid months are not without interest to those who believe that every season of the year has some measure of usefulness in the scheme of existence. John Burroughs, a true lover of Nature, said: "Summer is more wooing, more versatile and human, appeals to the affections and the sentiments, and fosters inquiry and the art impulse, but Winter is of more heroic cast and addresses the intellect." Incidentally, our picture shows very plainly that winter is not altogether detrimental to the growth of sturdy trees. Observe those giants in the foreground surrounded by great banks of snow. Well, that same snow keeps their roots warm, vigorous and alive, as no killing frost can reach them. Although "every mile is two in winter," we accept the inevitable and see it through. Finding fault with Creation is mostly a state of mind. "Two men look out through the same bars—one sees the mud, and one the stars."

The work that the dentist's patient does at home, has chiefly two aims:



- (1) To keep the teeth and gums scrupulously clean during the intervals of dental work.
- (2) Supplement the dentist's work in a scientific way, through the use of an effective tooth and gum cleansing agent.

PYROZONE POWDER

*Sterilized—Medicated
Dentifrice*

keeps the oral cavity clean.

PYROZONE POWDER contains: White Oak, Elm and Peruvian Barks, Precipitated Chalk and Dentinol (3%).



***Prescribe Pyrozone
Powder***

Compare Results

THE DENTINOL & PYROZONE Co., *Sole Distributors*
1480 Broadway, New York City.

D.D.

Please send **FREE SAMPLES PYROZONE POWDER** for distribution to patients.

Name D. D. S.

Street

City and State



The Revolution of a Practice

When Alfred C. Fones was graduated from the New York College of Dentistry in 1890 and joined his father in practice in Bridgeport, Conn., he came face to face with the conditions common at that time—neglected mouths, deep cavities, exposed pulps, putrescent canals, and nearly universal pyorrhea. He came to foresee an endless stream of dental cripples visiting his office for the rest of his life. There seemed to be no cure. The patient who was served today would come back only when driven by pain. He knew that such things should not be, but he could not see how to correct them.

And then, in 1899, he got the beginnings of a vision. One dentist had learned how to keep the mouths of his patients healthy. He gave a series of clinics and exhibited just the results that Fones dreamed of—continuously healthy mouths in dentally happy patients.

For five years Dr. Fones trained himself to render the service leading to such conditions. And then he took a great forward step—he required all his patients to receive that service. It revolutionized his practice. For them, no more pyorrhea, deep cavities, exposed pulps, nor putrescent canals. For him, no more backaches nor eye strain over root canals. And, for patients taken young enough, no restorations.

Such service might be expected to cost patients a lot of money. But it cost them far less than the old form. And it eliminated the forms of service which made practice disagreeable and exhausting to the dentist.

The first of a series of articles telling of some of the wonderful things Dr. Fones did in Bridgeport will appear in the January issue of this magazine. From that revolution in his own practice he went on to revolutionize many things in the dental life of the city, and the influence of what he did has gone out over the world.

For dentists who desire to do even a part of what he did or to conserve their physical resources, the information in this first article is worth the price of a lifelong subscription to this magazine.

Be sure you get this story. You will find the other chapters equally interesting.

GEORGE WOOD CLAPP.

Meeting Today's Dental Exactments

In a Film-Removing Agent

The Vital Claim Made for
Pepsodent by its Makers

THE makers of Pepsodent have but one thought in mind; one goal to strive for in their product.

That is, to supply the profession with a tooth paste that embodies the **LATEST** scientific findings in a dentifrice; findings based on the *dominant dental opinion of TODAY*.

Thus, in Pepsodent, you find what the profession itself holds as embodying the present-day ideal in a dentifrice.

Hence the Pepsodent formula is ever being further improved. Important changes within the last five years have been made. As the profession advances, Pepsodent advances with it.

Today it offers the most recent exactments of the profession in the harmless removal of the mucin plaque—or film—from teeth; the film which the profession largely holds responsible for tooth decay and pyorrhea; in firming and giving tonal quality to the gums, and in other ways.

Those exactments call for 9 distinct factors today. And these are today embodied in Pepsodent. Should these exactments call tomorrow for other factors, you will find them tomorrow in Pepsodent.

May we send you a full-size tube to try, together with recent data and literature? Just mail the coupon.

THE PEPSODENT CO.

G-712 Ludington Building, Chicago, Illinois

Please send me, free of charge, one regular 50-cent size tube of Pepsodent, with literature and formula.

Name.....

Address.....

Enclose card or letterhead

2367

*Inspiring the confidence
of doctor and patient alike*

LISTERINE

LISTERINE TOOTH PASTE
LISTERINE THROAT TABLETS

LAMBERT PHARMACAL COMPANY
ST. LOUIS, U. S. A.



His Prosperity

*—often dates from his
adoption of the Trubyte Idea*

MANY professional men are beginning to realize some of their ambitions, while others of equal skill are still struggling with little apparent gain. Why this is true is one of the big questions, and there does not seem to be an answer to fit all cases.

However, many dentists are solving the problem for themselves when they recognize that good craftsmanship alone is not enough! They must be more than "tinkers." First of all, what do denture patients want? They want a well-fitting denture, but above all one that restores or improves their *Appearance*.

Trubyte

—the dental synonym for "*Appearance*"

Your denture patients would rather have dentures that conceal their loss than anything else, and yet they spend hundreds of dollars every year on *Appearance* and nothing they buy is as vital to that *Appearance* as their teeth. Right there is where Trubyte Teeth come into the picture! By using Trubyte Teeth you are enabled to make a selection that harmonizes with your patient's face and produces a true restoration—just what patients want above everything and are willing to pay for when they realize what a difference the use of Trubyte Teeth means to them.

When you can restore facial beauty in many cases, actually improve appearance in others, and sustain health through efficient mastication with Trubyte Teeth, you are justified in using your knowledge of this fundamental passion for *Appearance* by suggesting the advantages of Trubyte Teeth to your patients. The application of this idea to your practice will go far toward influencing *your prosperity*.

RESTORATIONS  THAT RESTORE

The DENTISTS' SUPPLY COMPANY
of NEW YORK



deTrey's Synthetic Porcelain

8



The 3-shade package is illustrated. The regular assortment of shades is 3, 6 and 15. Any other assortment as desired may be just as easily obtained. There are two full portion liquids in each package.

Price \$10.00

THERE are *eight* notably distinctive advantages in Synthetic Porcelain — *eight* safeguards to your success with it. The list is long—but study each property individually. See how indispensable each is in its contribution to the success of every filling operation. Then consider the product as a whole using these *eight* properties as standards of value. Your balance will demonstrate why Synthetic Porcelain continues to stand pre-eminent among dentists who know the practical requirements.

THE L. D. CAULK COMPANY

Laboratories: MILFORD, DELAWARE AND TORONTO, CANADA

Dioxogen

The destructive action of Dioxogen on pus is of pronounced value in Pyorrhea and other pus disorders.

Nothing so quickly destroys pus and nothing so reliably neutralizes and destroys poisonous toxins, the really dangerous products of germ activities.

Indeed, if the Dental Profession realized the controlling influence of Dioxogen on germ processes and its utter harmlessness in other respects, few dental operations would be conducted without it.

Dioxogen meets the requirements of an oral disinfectant, harmless even when taken directly into the stomach it may be used freely in the mouth, and so effective that one simple rinsing in one to five water dilution destroys well over ninety per cent of the organisms found in the mouth.

A sample will gladly be sent on request.

THE OAKLAND CHEMICAL CO.

59 Fourth Avenue

New York, N. Y.



Convincing Evidence for Filling Porcelain

It is highly gratifying to have S. S. White Filling Porcelain so widely accepted by practising dentists. It is an added gratification to know that many dental schools have adopted it.

Reports have been received that even junior students are putting in better restorations with Filling

Porcelain than they were able to accomplish with other silicates.

The acceptance of this material by the profession and by the schools should be convincing to any dentist or teacher. Filling Porcelain is easier to mix and manipulate; it produces more permanent restorations and it assures more pleasing esthetic effects.

**For Satisfactory Results Use
S. S. White Filling Porcelain**

12 Colors

Supplied by Dealers

Complete Booklet on Request

The S. S. White Dental Mfg. Co.
Philadelphia

When teeth have to meet a parking problem

PANICKY mothers bring their children to you and complain, "Doctor, I just can't imagine what makes Jimmy's teeth crowd so. It looks as if his jaws weren't big enough for all those teeth."

Then you have to tell her that that is precisely the truth—they are not large enough and chiefly because Jimmy—or Mary—or Gwendolyn—or Reginald—has never done the work that nature intended to develop childish jaws.

Modern food has numerous crimes to its credit—and this particular one stands out clearly where all can see. Narrow dental arches, serious malocclusions—results of the use of this modern soft food that can be swallowed almost without mastication.

When you are telling mothers of foods that their children can chew and, at the same time, enjoy, remember Grape-Nuts—unique in its crispness, and so delicious that

thorough chewing is amply rewarded. It is made of wheat and malted barley, and contains food elements often lacking in our modern diet.

Phosphorus, iron, proteins, carbohydrates and vitamin-B are stored in the brown kernels. Special baking has converted a large part of the carbohydrates into easily digested dextrins and maltose. With whole milk or cream, Grape-Nuts forms an admirably balanced ration—a good food for growing children.

Analysis of Grape-Nuts

Moisture.....	1.3%
Ash.....	2.0%
Proteins.....	11.9%
Fat (ether extract).....	0.6%
Fibre.....	1.7%
Carbohydrates other than fibre.....	82.5%
[Maltose.....]	17%
Calories per ounce.....	105

POSTUM COMPANY, Inc., Dept. G. D. 12, Battle Creek, Mich.

If you live in Canada, address CANADIAN POSTUM COMPANY, LTD.,
Dept. G. D. 12, 812 Metropolitan Bldg., Toronto 2, Ont.

May we send you a special gift package containing a sample package of Grape-Nuts together with samples of other Post Health Products—which include Instant Postum, Post Toasties, Post's Bran Flakes and Post's Bran Chocolate? We shall be glad to send this gift package upon request.



© 1927, P. Co., Inc.

OFF THE BEATEN TRACK

*Two blowpipes of unusual
convenience for soldering*



The No. 4 is a double jointed blowpipe on a stand. The flame can be directed anywhere. For true convenience this blowpipe cannot be surpassed, as both hands are free to manipulate the work.

The No. 4C is a combined blowpipe and Bunsen. The blowpipe head, fitted to the burner tube by a taper joint, is instantly removable. Single-jointed, mounted on a substantial stand, this combination will do practically all of the soldering in a dental laboratory with entire satisfaction. Finished in oxidized copper.



These two burners are made for coal gas only

BUFFALO DENTAL MFG. COMPANY

Kehr and Urban Streets

:

:

:

Buffalo, N. Y.

You know what a broken Appointment means

"See your dentist at least twice each year" . . . Fully aware that a dentifrice can not replace the dentist, that professional care is the foremost factor in the correct practice of oral hygiene, in the maintenance of good health, Forhan advertising urges millions of men and women to have teeth and gums examined every six months.

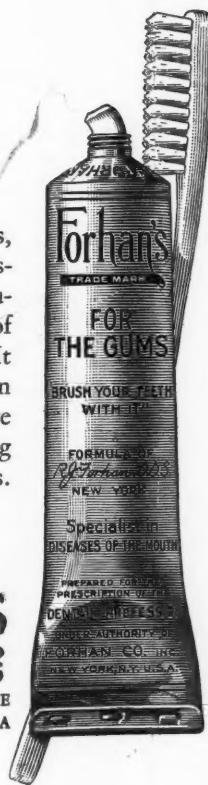
Through this advertising thoughtful people are learning the extreme penalty that is inflicted upon the one who carelessly breaks

a dental appointment.

Forhan's for the Gums, which supplements professional treatment, is invaluable in the prevention of Pyorrhetic conditions. It checks this too - common trouble. More and more dentists are recommending Forhan's to their patients.

Forhan Company, New York
Forhan's Ltd., Montreal

Forhan's
FOR THE GUMS
MORE THAN A TOOTH PASTE
... IT CHECKS PYORRHEA



Forhan's Pyorrhoea Astringent is a recognized healing adjunct in the successful treatment of Pyorrhetic conditions. Its use is restricted solely to dentists.



Out of the Forest Cabinets One Hundred Years Old

PICTURED above is a mahogany log jam, just after the flood waters have receded. African natives, with prodigious labor, have felled, squared, and dragged the logs to the nearest river.

American Cabinet mahogany comes from the Gold Coast of Africa; from forests containing only one mahogany tree to an acre; and from trees one hundred years old. African mahogany is noted for its beautiful figure and enduring qualities.

Get acquainted with American Dental Cabinets.

The American Cabinet Co.
Two Rivers, Wis.

Clip the coupon

The American Cabinet Co., Two Rivers, Wis.
Please send me circular No. 40, showing your finest cabinets.

Name _____
City _____

Address _____
State..... _____

The Modern Conception of Preventive Dentistry

Is based on two important precepts: 1. An active antacid to retard decay. 2. Gum massage to promote blood circulation and resist disease.

CAL-SO-DENT is the original antacid that also indicates the presence of acid.

The **O-DON-TEX BRUSH** is the original brush designed in accordance with this modern technique in the use of the brush. Stimulates circulation without irritation.

*They can be secured at drug counters
in the following and many other cities:*

Auburn, N. Y.
Alliance, Ohio
Altoona, Pa.
Albany, N. Y.
Amsterdam, N. Y.
Baltimore, Md.
Brooklyn, N. Y.
Bogalusa, La.
Boston, Mass.
Beverly, Mass.
Bound Brook, N. J.
Buffalo, N. Y.
Bay Shore, L. I.
Birmingham, Ala.
Bowling Green, Ky.
Cambridge, Mass.
Charleston, S. C.
Cleveland, Ohio
Cincinnati, Ohio
Cresson, Pa.
Dothan, Ala.
Detroit, Mich.
East Liverpool, Ohio
Evansville, Ind.
Freeport, N. Y.

Fitchburg, Mass.
Far Rockaway, N. Y.
Freehold, N. J.
Greenwich, Conn.
Garden City, L. I.
Greensboro, Ala.
Hartford, Conn.
Houston, Texas
Joplin, Mo.
Jersey City, N. J.
Lexington, Ky.
Little Rock, Ark.
Los Angeles, Cal.
Montgomery, Ala.
Morgantown, W. Va.
Milwaukee, Wis.
Mobile, Ala.
Mt. Vernon, N. Y.
New York City, N. Y.
New Haven, Conn.
New Orleans, La.
Norfolk, Va.
New Brockton, Ala.
New Brunswick, N. J.
Nashville, Tenn.

Orange, N. J.
Poughkeepsie, N. Y.
Providence, R. I.
Pawtucket, R. I.
Seattle, Wash.
Savannah, Ga.
Salem, Mass.
St. Paul, Minn.
Stamford, Conn.
Spartanburg, S. C.
St. Louis, Mo.
Summit, N. J.
Sea Bright, N. J.
Shelbyville, Ky.
Sound Beach, Conn.
Trenton, N. J.
Tuxedo Park, N. Y.
Toledo, Ohio
Tampa, Fla.
Washington, D. C.
Waterbury, Conn.
Winchester, Pa.
Winchester, Va.
Westfield, N. J.

PYORRHEA—None will get it who use
CAL-SO-DENT and the **O-DON-TEX BRUSH** in time

O-DON-TEX PRODUCTS CORPORATION
315 Fifth Avenue, New York

KERR
REG. U. S. PAT. OFF.

Perfection Impression Compound

Kerr Perfection Impression Compound facilitates accurate, natural, comfortable and efficient restorations, and is indispensable to the Prosthetist in imitating Nature.

*Made in Regular Cakes, Tracing
Sticks and Wafers for Your
Convenience*



*Kerr Perfection Impression
Compound Cakes*



*Test Impression taken in Kerr
Perfection Impression Compound
Showing Complete Muscle
Trimming*

Kerr Perfection Impression Compound has the essential qualities that make it possible to obtain the desired results in impression taking, no matter how difficult the case may be.

By the Greene System of Impression Taking you will eliminate all the guess-work and know by actual tests In Advance what the resultant outcome will be. Booklet giving this information sent on request. It's free!

KERR
REG. U. S. PAT. OFF.

Snow White Plaster

Kerr Snow White Plaster is made from carefully selected material, which is ground extremely fine and specially processed to give a plaster that is dense, hard, breaks clean, and imparts every detail and an exceptionally smooth surface.



*No. 1
Plaster*

*Natural
Setting
about 18
minutes*

*An all-around Plaster for models,
vulcanizing, impressions, and gen-
eral purposes.*



*No. 2
Impression
Plaster*

*Rapid
Setting
5 minutes*

*An Impression Plaster scientifically
prepared to set accurately in five
minutes.*

Quality standardized, tested and dependable and every can the same to the last portion. Put up in 10-pound tin cans and 100 and 250-pound steel drums, which are securely sealed against dirt, dampness, etc.

FOR SALE BY LEADING DENTAL DEPOTS

DETROIT DENTAL MFG. CO.

6081-6095 Twelfth St.

DETROIT, MICH., U.S.A.

A Novampul Syringe ~ Free

So You May Appreciate the
Many Advantages of the
NOVAMPUL

BY ADOPTING the Novampul system you may employ the ideal method of administering local anesthetic—far more convenient than prepared solution, tablet or ampule and at the same time possessing many advantages over the cartridge type method. Since the Novampul can be used only in the Novampul Syringe we are presenting for a limited time this unusually liberal offer to make the Novampul immediately available for trial by any dentist.

SPECIAL OFFER

With an initial purchase of 200 Novampuls costing \$15.00 or a greater quantity, we will give free a regular \$4.00 Novampul Syringe. You may avail yourself of this offer through your dealer or direct from us, using the coupon below.

Why not take advantage of this opportunity today and see for yourself how superior the Novampul System is? You incur no risk, for the Novampul Unit, like all Novol products, is sold on an unconditional guarantee.

PRICES

Novampul Syringe . . .	\$4.00
Novampuls box of 1085
Box of 100 . . .	8.00
2 boxes of 100 . . .	15.00
5 boxes of 100 . . .	35.00

NOVOCOL CHEMICAL MFG. CO. INC.
2921 - 2923 ATLANTIC AVE. BROOKLYN, N.Y.
Makers of  Products

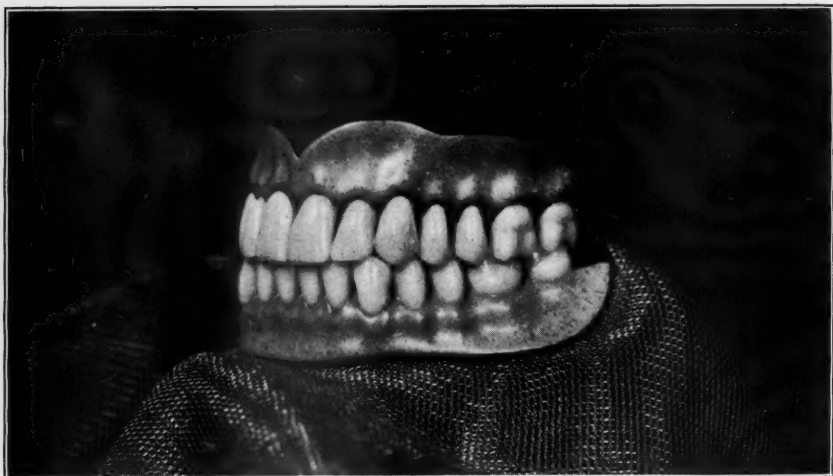
All dealers sell
Novampuls and
other Novol
Products.



Send me 200 Novampuls with Novampul Syringe at Special Offer price of \$15.00

Dr. _____ Dealer _____

Address _____



Why They Satisfy

TEXTURE, translucence and color of porcelain, together with the beautiful forms of the teeth, provide for an esthetic restoration.

Strength of porcelain and attachment assures durability of the dentures.

Correct proportioning of the teeth in the set together with the accurate occlusal surfaces of the posteriors produces an efficient articulation.

Proper shaping of the teeth in every detail saves time in setting up and articulating.

In a few words, S. S. White "Natural" Teeth assure durability, efficiency and esthetics in dentures and enable you to accomplish these results in minimum time.

Ask your dealer for

"NATURAL" TEETH

Complete booklet on request

The S.S. White Dental Mfg. Co.
"Since 1844 the Standard"
Philadelphia



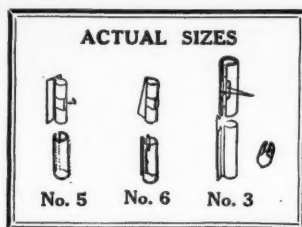
Two Attachments which Meet All Requirements

The Supplee No. 5 & No. 6 Attachments

with the Piston Ring Tension Device

No. 5

The No. 6 differs only in form of the stem.



No. 3 FOR OPEN BITES

The Supplee No. 3, a less expensive attachment, is suitable for free bite cases when attachments can be used without cutting it down.

Laboratory endorsement of the Supplee Attachments is proof of their practicability

Prices: No. 1, \$ 3.50 each
No. 3, \$ 5.50 each
No. 5, \$ 7.50 each
No. 6, \$10.00 each

Order through your dealer or direct

THESE TWO SUPPLEE ATTACHMENTS make possible the finest and most accurate type of removable bridgework without recourse to a difficult technic or the purchase of costly and intricate instruments.

Supplee No. 5 & No. 6 can be used as external (No. 5) or internal (No. 6) attachments and can be cut down for reasonably short bites without weakening the ring tension.

Paralleling is accomplished *without* a parallelometer.

Tension adjustment can be made in the mouth. The spring tension permits easy insertion or removal, holds firmly, yet by yielding slightly under pressure presents valuable compensating properties to ease off masticating stress.

Write for literature and technic.

Tension Adjuster for Supplee No. 5 & No. 6 Attachments

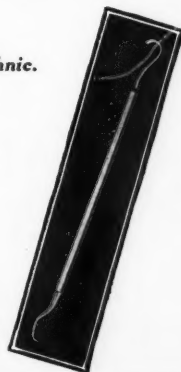
This handy instrument, size about $2\frac{1}{2}$ times that of illustration, makes it possible to adjust the tension of Supplee No. 5 & No. 6 Attachments while in the mouth. When requested, one is supplied free to all users of Supplee No. 5 & No. 6 Attachments.

SAM'L G. SUPPLEE & CO.

19 Union Square

New York, N. Y.

Phones—ALGonquin 7470-1-2-3-4-5-6-7



For Cases like these use

JELENKO No. 7

the Universal Platinum-Content Casting Gold



JELENKO No. 7 has in a short time won high favor for better one-piece castings. No. 7 is a platinum-content cast gold, highly resistant to mouth discoloration. It is ideal also for unit castings such as clasps,* lingual and palatal bars and saddles, as it can be soldered. Use No. 7 for all castings, except inlays.

*Write for our
New Illustrated
Catalogue
Describing Our
Complete Line*

*Better Dealers
Everywhere Sell
Jelenko Products*

**Fusing Point 1780° F.—Gold Color
Per dwt. \$1.50**

* Jelenko No. 7 when used for cast clasps can be adjusted as much as necessary without weakening or breaking.



J.F. JELENKO & Co.
136 West 52nd. St. New York, U.S.A.

Poor Soil for Bacterial Growth

Authorities have stated that an alkaline medium offers poor soil for the growth and development of bacteria. The accumulation of mouth acids, particularly around the gingival margin, offers the best predisposing cause for dental erosion and decay.

For complete systemic and local alkalization Phillips Milk of Magnesia is recognized as the ideal alkalizer.

Phillips Milk of Magnesia has been standard with physicians and dentists for the last 50 years. It owes its success to the fact that it has all the qualities that should go with an alkalizer for use in the oral cavity.

Phillips Milk of Magnesia is powerful as an antacid, being 4 times as effective as a saturated solution of sodium bicarbonate and 50 times as efficient as lime water. It is non-irritating to mucous membranes. It is a non-abrasive alkaline fluid. It is a hydrate in colloidal suspension, which mixes intimately with mouth fluids, is persistent in its effect as an antacid.

PHILLIPS Milk of Magnesia

CAUTION. The dentist is advised to beware of imitations. Phillips Milk of Magnesia supplied in 4-ounce and 12-ounce bottles. Phillips Dental Magnesia (a compound dentifrice) supplied in 2-ounce collapsible tubes. Obtainable from druggists everywhere.

"Milk of Magnesia" has been the U. S. Registered Trade Mark of The Charles H. Phillips Chemical Co. and its predecessor Charles H. Phillips since 1875.

Prepared only by The Charles H. Phillips Chemical Co., New York and London



"My Duplicate Set of Trubytes 'Saved My Face'"

"**W**HEN YOU 'SOLD' me on the idea of getting that duplicate set of Trubytes, Doctor, you literally 'saved my face.'"

"Saturday night the Engineering Society gave a dinner at which I was to speak on that new process I told you about. I'd waited a year for the chance.

"In cleaning up for the occasion—I'd had a heavy day at the laboratory—I was brushing my denture when—it

slipped from my hand. You have the remains.

"I hate to think of the fix I should have been in without my extra set! When you made them, I honestly felt it was an unnecessary expense, but Saturday night they were worth ten times their cost to me.

"So if you can't repair this broken set, make me another—*quick!*"

DUPLICATE TRUBYTE DENTURES THE ONLY REAL DENTURE INSURANCE

Trubyte Dentures are Worth Duplicating

THE DENTISTS' SUPPLY COMPANY
OF NEW YORK

220 West 42nd Street

New York, N. Y.



A DUPLICATE TRUBYTE DENTURE IS PRICELESS WHEN NEEDED



THE STRENGTH of the union between a pin and the porcelain in facings is partly dependent upon the area of the pin surface. The more pin surface the porcelain can bake to, the stronger the union. The greatest diameter of this union is in the line in which the facing needs its greatest resisting power.

Flat pins offer 70 per cent more surface area than round pins, and more of the porcelain adheres to them.

Round pins offer to the porcelain the smallest surface area possible to obtain in a pin of given weight and length.

Flat Pin Facings are safe and strong, and the technic for use is the same as that for Dentsply Pointed Pin Facings.

Your dealer or direct

The Dentists' Supply Company of New York

220 West 42nd Street

New York, N. Y.

FLAT PIN
FACINGS



The Rise and Fall of a Municipal Oral Hygiene Crusade



A DRAMATIC story of the conception and organization of a campaign for the city-wide application of the theories of oral hygiene and preventive dentistry in one of New England's industrial centers, of the rapid growth of the idea under the united support of dental, medical and municipal authorities, of its success, and then of its collapse due to the sinister influence of a "change in politics."

The startling discoveries made during this crusade and the lessons learned are to this day the basis of all organized oral hygiene work in schools and industries.

"Brother Bill" has been to Bridgeport and has secured from Dr. A. C. Fones and others the facts of this crusade. The story will appear serially in

THE DENTAL DIGEST beginning January, 1928

*Subscribe now—direct or through
Your Dealer*

U. S. Possessions, Cuba and Mexico \$1.00; Canada \$1.40;
Great Britain and Continent \$2.75; Australia \$3.25;
Elsewhere \$1.75.

THE DENTAL DIGEST,
220 West 42nd Street,
New York, N. Y.

Please enter my subscription to THE DENTAL DIGEST for 1 year beginning January, 1928. Check for \$1.00 enclosed. Charge my dealer.....

Dr.
.....

and
the
al
of
he
ed
al
its
a

his
his
ne

and
ers
will

neck